

**CHANGING CAREERS/STAYING RELEVANT:
FACILITATING THE PATH OF MATURE STUDENTS IN
HIGHER EDUCATION**

Thesis submitted in accordance with the requirements of the
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ABSTRACT

The impacts of the 'Knowledge Economy', 'Globalisation' and technological change are widely documented as creating massive changes in the world of work. Established roles are disappearing or being "hollowed out" while new work emphasises different skill requirements: creativity, problem solving and working in fluid environments involving cross-disciplines with rapid knowledge acquisition. Under challenge too is the linear education-work-retirement or "three boxes of life" model which gave a level of stability or predictability. The literature is extensive on the challenge and potential high level policy responses, with education figuring prominently as a critical element in meeting those challenges. Some question whether the State should play more actively to protect or assist individuals in managing change – particularly the increasing and risky propensity for education journeys to be self-managed and funded, and driven to meet economic needs.

Aging populaces are placing pressures on government resources with actions addressed to keeping people working including lifting retirement ages and deferring access to publicly funded support. Mature individuals are staying, and will seek to remain, in employment for financial security and social connection while being drawn to education to effect that employment.

The research directed its focus to issues arising for mature learners: how do they see their learning equipping them for the future, how is learning engagement impacting sense of identity and agency, and how do they see themselves prepared to navigate an uncertain world? Is the 'three boxes of life model' of education-work-retirement still influential and does it affect mature learners' expectations of education and understanding of the unfolding work environment. This appears a less researched area and the research aims to complement studies directed to assisting mature individuals into learning and to successful completion.

An exploratory research approach was employed. It used the 'Life Course' paradigm as a framework to situate processes by which social changes and other factors impact mature people's work and education paths. This assisted address the multi-faceted factors at play

in career trajectories and transition paths including the emergence of biographicity as a critical skill.

Data for the study was obtained from interviews and focus groups with mature age students in counselling, psychology and social work at a private Australian higher education institution. Learners' approaches to career change, lifelong learning concepts and managing the rapidity of change in employment were examined. Attention was directed to how learners perceive their sense of identity and agency, pointing to the emergence of self-awareness and self-assurance and capacity to navigate the changing world of work flowing from the education experience. Interviews with professional associations further informed understanding.

The research directs attention to issues in the policy domain identifying a series of key themes important to understanding the position of mature learners including motivations, mindset and skills, views of identity and self-assurance, aspects of agency and perspectives on the 'three boxes' view and the role of technology and work change.

The study highlights the potential contribution of mature individuals from educational engagement. It questions the propensity for policy regarding mature sections of society to focus on short term training, reduced hours and lifestyle which would circumscribe their involvement. The research points to value from educators, professions, policy makers and employers working in synchrony to facilitate successful work transitions, and points to areas for further research.

There are, in this world, no unchallenged authorities to turn to but rather competing versions of how we should live or behave. Learning becomes, in these terms, a kind of biographical survival necessity.

West, L., Alheit, P., Andersen, A.S. and Merrill, B. (2007).
*Using Biographical and Life History Approaches in the Study of
Adult and Lifelong Learning: European Perspectives* p.18

There has never been a time of greater promise, or one of greater potential peril. Today's decision-makers, however, are too often trapped in traditional, linear thinking, or too absorbed by the multiple crises demanding their attention, to think strategically about the forces of disruption and innovation shaping our future.

Schwab, K (2015).
"The Fourth Industrial Revolution." *Foreign Affairs*. December

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Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for any other award or credit at this or any institution of higher education. To the best of my knowledge, the thesis is wholly original and all material or writing published or written by others and contained herein has been duly referenced and credited.

Signature: *Lyndell Fraser*

Date: *28 September 2018*

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Marie Patricia Fraser
21/1/1927 – 28/10/2017

GLOSSARY

| | |
|--|--|
| Bifurcation | Applied to employment to denote employers are seeking two types of workers – highly skilled and in demand at one end and at the other requiring less skills; e.g. data analysts vi-a-vis fast food counter staff. The division is associated with growing disparity/ income inequality. |
| Big Data | Term describing extremely large data sets – structured and unstructured increasingly available to organisations facilitated by systems and processes for accumulation and storage. The volume and speed of transfer in and out, and rich variety of information assets combined with processing and analytic capability means data can drive insight, decision making, and process automation. |
| Career Portfolio | Collection of self-selected artefacts and self-generated reflections designed to show the individual's professional knowledge, capabilities and experiences for presentation to secure employment. |
| Collaborative or Sharing Economy | Economic model where individuals borrow or rent assets owned by others, The model usually arises when an asset price is high but not fully utilised. It reflects increased data availability about people and things allowing physical assets to be disaggregated and consumed as services e.g. Uber co-ordinates private vehicles to provide transport. |
| Disruption/Disruptive Innovation | Perspective developed by Clayton Christensen that frequently, new start up entities are able to deliver more affordable and accessible products and services leading to dominant suppliers being replaced. Typically the process occurs by simple applications at lower end product or service and then inexorably moves up market, frequently displacing incumbents. |
| Fourth Industrial Revolution | Term describing the fusion of technologies that is blurring the lines between the physical, digital and biological spheres. It builds on the digital revolution of the mid-twentieth century. The pace of change and disruption to sectors is unprecedented and global, leading to new ways of working, producing and distributing goods and services. |
| Gig Economy | A gig economy is characterised by temporary, flexible jobs where organisations contract with independent contractors and freelancers for short term work. It raises issues of job uncertainty, and the absence of full time careers and associated access to organisational, social and learning benefits. |
| Knowledge Economy | The term refers to a system of consumption and production based on intellectual capital. Typically, production of services and goods that are knowledge-based provides rapid acceleration in technical and scientific fields, making way for more innovation in the economy as a whole. |
| Labour Accretive | Process whereby labour numbers are increased gradually |
| Machine Learning | Method of data analysis that automates analytical model building. Using algorithms that iteratively learn from data, it allows computers to find hidden insights without being explicitly programmed where to look. As models are exposed to new data, they independently adapt and learn from previous computations to produce reliable, repeatable decisions and results. |
| Patient-centred health care provider operating models | Models for delivering services to individuals based on them being actively informed and involved in their care. Characteristics include integration of services, systems and institutions in health/allied health |

sectors to deliver more holistic care, ideally increasing optimal patient outcomes and aiding cost management.

Precarity

Term referring to a precarious existence. Used to reference the spread of contingent work and insecure employment. It also denotes the subjective condition of those who experience insecure work. The lack of predictability and security also flow into issues of material and psychological welfare.

Task Rabbit

Service designed to provide vetted people from a local area to undertake household tasks and home repairs

Wicked Problem

Wicked problems are intractable social or cultural problems. A range of factors may be responsible including incomplete or contradictory knowledge, changing requirements and conflicting demands, high cost or economic consequences, the number of people and opinions involved and the interconnected nature of these problems with other problems.

CHAPTER 1

PREFACE

How do mature workers equip themselves for a world of dramatic change in the outlook for employment? How do they respond to an environment which assumes they will stay abreast of what is needed to participate successfully; but frequently demonstrates suspicions even hostility implying they may be “past their use by date”? How do they tackle the challenge of new formal learning and how does this impact their sense of identity and how they view themselves and their futures?

Prior to this research I was employed in executive management in banking, insurance and education. Forming and building diverse teams in terms of education, age, skills, experience, roles, sectors and gender was a necessity. Hard bitten experience had shown that without a collective wisdom being brought to bear on problems - albeit in contemporary ways - the ability to successfully address them was often more difficult and less innovative. A recurrent feature was how frequently issues presently being tackled had been seen in various guises by mature team members. Solutions might be different but having mature insights delivered with new skills, dialogues and participatory frameworks added greatly to team accomplishment.

My last role¹ was a Division head with an Australian corporate in the education sector. The Division provided a wide range of tertiary education offerings characterised by increasing numbers of mature students at vocational and higher education levels. However in the media, government and from industry the focus was, and continues to be, firmly on youth. Even when discussion turns to the aging populace it is largely in terms of how younger workers will need to provide more support for older citizens.

¹ I resigned after seven years in July 2016. The company was supportive of my on-going research and one entity became the site for my data collection.

This gap in perceptions and what was happening was a stimulus to investigate further. It led me to question whether a different, and ideally more optimistic, picture could be presented about mature students' engagement in and capacity for learning and future work. What are their motivations? How do they view themselves – their agency and sense of self – and ability to negotiate the dynamics of work? Do they anticipate the impact of technology, globalisation and the shift to a knowledge economy with the accompanying disruption?

In seeking to provide responses and a better understanding for all stakeholders this research sought views at the coal face via focus groups and interviews with mature learners undertaking social work, counselling and psychology studies. This was complemented by insights from professional associations.

The student investment is substantial – time, financial and intellectual as well as personal and social outlays. Informing the debate about how mature learners can more effectively understand their learning and contribute their skills and experience in the workforce is the research objective. The goal is to complement existing research about this group to benefit educators, government, professions, employers and ultimately mature students themselves.

INTRODUCTION

Much has been, and continues to be, written about the Knowledge Economy and Globalisation and the issues these phenomena bring for employment (Arthur, 2017, European Commission (EC), 2010, Handel, 2012, International Labour Organisation, 2015 Manyika, Lund, Chui, Bughin, Woetzel, Batra, Ko and Sanghvi, 2017, OECD, 2015, World Bank, 2002, 2015, World Economic Forum, (WEF) 2015). An accompanying issue is the loss of, and marked changes to, jobs including amongst higher skilled and/or professional occupations (Frey and Osborne, 2013, PwC 2015, 2016). Evidence suggests that many jobs/multiple careers will be characteristic of emerging and future employment in modern economies (Hajkowicz, Reeson, Rudd, Bratanova, Hodgers, Mason and Boughen, 2016, Handel, 2012, Lyons, Schweitzer and Ng, 2015, NSW Treasury, 2016).

Kegan and Meehan (2017) argue the future will feature nonstandard and complex roles concomitantly as efforts continue to automate complex work. Time in roles will shrink with skills made irrelevant. It raises the unappealing prospect of increasing difficulty in finding work with repercussions for how lives are made meaningful. Managing this new environment portends effective acquisition of new capabilities and rapid mastering of new knowledge (Andreasson, 2009, Cunningham and Villaseñor, 2014, Hanushek and Woessmann, 2008, Joerres, 2017, Thomas and Thomas, 2009).

Adopting life-long learning becomes essential as new information is constantly generated and knowledge is required to discern value and relevancy. In scale terms, IBM in 2006 predicted the world's information base doubled in size every eleven hours (Coles, Cox, Mackey and Richardson, 2006). WEF estimated over 12bn devices were connected to the internet in 2015 with expectations of over 20bn by 2020 (Dutta, Geiger and Lanvin, 2015). The number of "things" connected via the "internet of things" is anticipated to grow from 7% to 15% over 2013-2020 (IDC, 2013). IDC (2013) contends the 'internet of things' will subsume the Information and Communications Technologies (ICT) industry and by 2020 there will be 44 zettabytes (zbB)² of digital units - a hundredfold increase on 2013.

² A terabyte equals 1,024 gigabytes. A zettabyte equals 1 trillion gigabytes.

The thesis questions are directed at understanding whether mature students in three social science fields are embarking on substantial education commitments without purview of how sector and skills' demand may unfold. It considers whether the linear or "three boxes": *education-employment-retirement* lifecycle view resonates with mature learners - leading to unwarranted confidence regarding ability to adapt; and how they perceive the nexus between education and employment. Additionally, decision processes in selecting their studies and understanding technology impacts are explored.

A premise is mature learners have a necessarily limited time to operationalise their investment in education to secure work. Even with government policies removing overt forms of age discrimination and raising the "working age" prior to eligibility for social security benefits, the time for optimising education relative to younger students is less.

This research drew students from social work, psychology, and counselling and psychotherapy. These professions appear attractive to mature students with significant enrolments. Importantly, they have been subject to less public profiling for disruption than professions such as accounting, law or even medicine. This highlights issues both in the level of information available, and awareness, especially pertinent to the group being studied.

Globally jobs are disappearing or being radically changed under technology's impetus. Accompanying this is a need for dynamic and varied skill acquisition, meaning the familiar and very structured "education-work-retirement" models are likely to prove inadequate for sustained engagement. Ultimately, this raises issues for educators, professions and employers as to how mature individuals can be included and prepared for the scenarios they likely will face.

This thesis proceeds via a literature review, an outline and rationale for the research approach, analysis of the data collected and findings, and a concluding discussion of the implications for practice and policy, limitations and pointers to further research.

There is extensive literature addressed to issues associated with non-traditional learners, including mature learners. Exploration to address the research questions attended to two broad areas. The policy or macro which tends to advocate undertaking

education to remain active in the workforce. The emphasis is frequently directed to economic need and national competitiveness including supporting aging populations - coupled with recognising contemporary issues of technology change. This is evidenced particularly from work by global bodies (WEF, 2016, OECD), governments (The Treasury, 2016) and consulting firms – (Deloitte, 2016, McKinsey, 2017).

The second focussed on the experiences and issues associated with accessing and staying the course of education. Mature learners have been well recognised as having particular needs and issues. (Dymock, Billett, Klieve, Johnson and Martin, 2012, Ferrier, Burke and Selby Smith, 2008, Gannon, 2014, Griffin and Beddie, 2011, Lundberg and Marshallsay, 2008, Reay, Ball and David, 2002). These are augmented by many studies directed at facilitating entry into learning and successful completion (for instance. Boyle and Abdullah, 2015 through extra support and pathway programs, Drury, Francis and Chapman, 2008 via mentoring, Pott, 2015 via career counselling).

Exposing the importance of straddling these different perspectives was assisted by the 'life course' literature - emphasising personal factors alongside the social and historic milieu - in developing a suitable exploratory approach.

Each provided context for the complex issues confronting mature individuals seeking to navigate uncertain futures while leveraging their particular experiences and capacity to contribute. The thesis sought to be complementary by addressing how this group views learning as facilitating future employment and contributions, and their outlook on dramatic changes in work. The literature review although extensive and providing many elements which gave input to the study, did not indicate a specific body of work directed to learning engagement impacting outlook on the changing world of work.

The research methodology employs a qualitative approach reflecting the study's exploratory nature. It utilises a constructivist approach to assist in providing the world view that mature students employ to make sense of the world; with an interpretivist perspective in recognition of the individual's role and to assist gain insights and elucidate issues.

A *Life Course* theoretical framework informed the exploratory approach. This paradigm provides options for examining complex social and behavioural issues. Its appeal includes the focus on time and timing and their impacts – notably in terms of

patterns of stability and change, and the acknowledgement of intersections between personal biography and social context in human lives. The latter attends to links between the immediate environment and broader social and cultural issues while recognising that as lives are interconnected this brings opportunities, checks and limitations. Finally it emphasises the role of human agency and, in this case, how social and historical contexts are shaping individual lives. This facilitates exposing how individuals' aspirations and re-imagining of their identities are playing out under the influence of education and into a changed working environment (Keating, 2010).

An Australian private non-university higher education provider (NUHEP), "the College", anchored the investigation. Data were collected through focus groups and individual interviews. The data was coded and analysed to elicit a number of key themes. Additionally interviews occurred with two professional associations.

Specifically, this research addresses itself to learning engagement by mature students seeking to equip themselves with discipline capabilities via higher education in various "helping professions". The findings address themes of mindsets and skills, self and identity, agency and the transformation path and views on the future world of work. It places these in the context of their perspectives on the macro-level social and historical conditions - namely the emergence of the knowledge economy, globalisation and disruptive technological change.

The discussion section summarises the research findings and indicates future research directions. Perspective is sought on the capability that emerges from the mature students in contrast to policy recommendations which appear short term and constrained in their encapsulation. Issues are canvassed for consideration by educators, professions, policy makers, and employers and how the work might be disseminated to facilitate this.

CHAPTER 2

LITERATURE REVIEW – ‘*the global context*’

The literature review progresses in two parts. The first is directed to providing information on international and domestic Australian views on impacts of the shift to a knowledge economy and accompanying technology change. The second turns to issues pertaining specifically to mature learners and their transitions. The intention is to provide context for the setting in which mature learners are undertaking their studies and addresses the rapidly changing world of work including the health and community sectors. Context aids understanding of stakeholders’ positioning and how this may impact the situation in which mature learners find themselves.

2.1 Setting the Scene: the shift to a knowledge economy

The ‘Knowledge Economy’s presence is referred extensively in government, economic, industry, social, academic, media and political forums having been devised by the OECD (1996) to define an economy "directly based on the production, distribution and use of knowledge and information" (p.7). Specifically

What is created is a network society, where the opportunity and capability to access and join knowledge and learning intensive relations determines the socio-economic position of individuals and firms (OECD, 1996, p14).

Asia-Pacific Economic Co-operation (APEC) Economic Committee subsequently argued knowledge had become across all industries the major driver of growth, wealth creation and employment (APEC, 2000). Effective utilisation of knowledge intensive activities was pervasive embracing new and extending to “old” industry sectors e.g. agriculture (Brinkley, 2009) further changing the employment landscape.

Importantly, APEC (2000) observed knowledge application extended beyond the technological to embrace elements such as cultural, social and managerial knowledge. This wider explication contends organisational knowledge embraces the ability to integrate information with experience to take action. Applying this more “universal” perspective,

implies people are able, and adept, to manage the demands for successful engagement with, and utilisation, of knowledge. This richer definition would suggest opportunities for mature individuals with significant cultural and social nuance coupled with experience.

Four types of knowledge were viewed as important: 'Know-what', 'Know-why', 'Know-how' and 'Know-who'. The first two have the characteristics of market commodities or economic resources. Knowledge is fact based and uses understanding of scientific principles. The depth of application will respond to a profession's skill or research undertakings. 'Know-how' extends to include judgement, employing shared experience and expertise while 'know-who' is the ability to socialise and network to secure solutions. (OECD, 1996). The latter two have particular relevance at times of accelerating change – prospectively encompassing cross-disciplinary aspects and coalitions from outside organisations to resolve problems (Brooke, Taylor, McLoughlin and Di Biase, 2013). This challenges educators, professions and ultimately employers to provide learning, models, processes and mechanisms for such coalitions to form and be effective.

The OECD (1996) contended learning to master different forms of knowledge would occur in multiple settings: work environments, educational channels and processes. However as the pace of change has accelerated, knowledge transmission becomes a necessary constant including “capability to learn” (OECD, 1996, p.19). The conclusion is for an on-going requirement over an individual's working life. The presumptions of how and where this learning will occur are important – the implied equanimity is questionable. Livingstone (2012) argues that while people may be acquiring work-related knowledge and credentials, their capacity to use these is highly dependent upon individual negotiating power. He maintains this has been decreasing in western advanced nations (e.g. USA) as organisations drive productivity including downsizing. Differences in class, gender, race and age may expose some to further difficulties.

The concern arises that education is co-opted such that knowledge, and its attainment, is directed to underpinning the prevailing economic, political and intellectual arrangement with the potential to advantage the few. Robertson (2005, 2014) critiques the way ideas and discourse about knowledge, growth and development have been used by institutions and nations to mobilise power and production – including to support capitalism. Everyone becomes responsible for generating their own learning, but individual capacity

for procurement is difficult. Those with the least are more at risk. Moreover, the pre-eminence given economic concerns he sees as jeopardising important social and cultural aspects of knowledge creation and use.

Guile (2010) asserts that knowledge in recent times has been defined in the abstract, and divorced from previous linkages with social practice for its codification and deployment. The danger becomes that policy makers pre-suppose the cultures and activities which foster or provide the settings for new forms of knowledge to be produced and contextualised continue in place. This assigns a further educational challenge for institutions and workplaces to support those cultures and practices. He argues there needs to be a shift from “concern for adaptation, reflection and qualifications towards mediation, objects and reason” (Guile, 2010 p.8). Only in this way will people be able to conceptualise relations between different forms of knowledge; to develop cultures and practices to use different forms of knowledge and so create new forms of economic, political and social activity; and subsequently identify and differentiate the ensuing outcomes.

The problems raised - as to how knowledge is created and who controls and benefits from its deployment - paint a more complex picture for individuals seeking to manage their working lives and for stakeholders aiming to support and engage them. However it would be naïve to ignore that frequently knowledge is being created and disseminated in non-traditional, dynamic forms that cross-borders and are not subject to traditional institutional oversight. For individuals managing this phenomenon becomes even more difficult if social safety nets are weak, and access to education is eroded while becoming an individual accountability to be managed over a lifetime.

2.2 Knowledge Economy: Workforce Issues

There is no agreed definition or framework for measuring the extent to which an economy, or society, might be graded as a ‘knowledge economy’. The Australian Bureau of Statistics (ABS) (2002) documented technology permeating all parts of the economy including profoundly changing the way work and lives are conducted. It noted the flow of knowledge facilitating innovation but moving between and across firms, governments and educational institutions. Flows are non-linear and accompanied by significant uncertainty.

Higher levels of trust at macro and micro levels become a prerequisite - lowering transaction costs and increasing certainty. Within organisations higher levels of trust may facilitate exchange and team work and the elucidation of capability; but this is not a given and difficult for those outside or with indeterminate employment contracts to manage given the creation and contextualisation issues indicated by Guile (2010) and Livingstone (2012).

Trust presents in work on the new 'sharing or collaborative economy' (Botsman and Roger, 2014) as essential to underpinning confidence and certainty for new networks of providers to work effectively. Significantly, these models presume workforces enabled to access data and adapt very quickly to changing demands including frequently non-repeatable work (Botsman, 2014). However the criticisms raised above of individuals being able to secure positions to exercise knowledge acquisition and creation are not addressed. Kessler (2015) argues the 'sharing economy' is over-rated in terms of activities amenable to shared use for time and cost reasons, but platform growth continues Sundararajan (2017). Miller (2014), Minifie and Wiltshire (2016) and Sundararajan (2014) note some originators have become behemoths (e.g. Uber or Airbnb) accreting knowledge and its control. This raises many issues beyond this research but points to vulnerability issues for individuals seeking to manage in this changing milieu (Das, 2017).

Advanced economies (e.g. Western Europe) have been shifting to higher compositions of tertiary, quaternary and quinary industries and sectors – fuelled by information (IBISWorld, 2016, Kellerman, 1985, Pew Research, 2016, Rosenberg, 2015, World Bank, 2000.). More services are demanded as income increases - especially health, education, leisure and entertainment (World Bank, 2000). Previously service growth has been labour accretive reflecting typically lower levels of mechanisation. But in higher income "post-industrialising" nations the trend is to automation and shedding labour including off-shore outsourcing.

Service industries have tended to use more human capital over natural capital resulting in demand for better educated workers (Bradley et al., 2016, Lewin, Lin, Aird and Sappenfield, 2010, Pew Research Center, 2016). The rate of technological change is challenging this. Employment rates are slowing in advanced economies raising dilemmas for policy makers, industry, educators and individuals as to how they identify and facilitate shifts to growth areas. Pressures from globalisation and technology on resources and

ageing workforces are intensifying policy complexity (Beaudry, Cummins and Kunkel, 2015, Department of Industry, Innovation and Science (DIIS), 2017, Ghemawat, 2017, Green and Sand, 2016, Handel, 2012, ILO, 2014, Manyika, Lund, Chui, Bughin, Woetzel, Batra, Ko, and Sanghvi, 2017).

The European Commission (2010) looking to 2020 has argued a “smart, sustainable and inclusive economy” (p.6) is essential to social cohesion, to empowering people to cope with change and to securing a competitive economy able to meet future populations’ needs. But Arthur (2017) argues social cohesion may require different models for distribution to sustain potentially disadvantaged people while education and life-long learning become accompanying central strategic planks. The issue in these proposals is while outlining comprehensive approaches, the timeframes facing those being disenfranchised by changes in work are often immediate if not imminent. Policies and activities to change the dialogue and decision frameworks at grassroots levels are indicated if mature individuals are to minimise the risk of operating in narrow confines in seeking to make effective adjustments (Manyika, 2017).

An increasing theme is job loss in higher skilled, even professional occupations. Frey and Osborne (2013) widely cited quantitative study modelled job losses from computerisation to conclude 47% of total United States of America (USA) employment is at high risk. Importantly, they distinguish between activity involving social interaction vis-a-vis social intelligence to determine susceptibility to automation or prefabrication. The analysis is against the backdrop of computerisation since the 1980s which saw a bifurcation in employment to higher-income cognitive roles and lower income manual or service occupations. Professional job losses potentially will exacerbate this trend.

Ben-Ner and Urtasun (2013) drew similar conclusions. Jobs with high levels of complexity may still use technology to highlight/advantage complex skill sets; but where this is absent skills accumulation may be more difficult leading to bifurcation in employment and associated income. Increased income pressures on low and middle income earners has been documented extensively (ABS, 2018, CEDA, 2015, Cho, Hwang and Schreyer, 2017, Dao, Das, Koczan and Lian, 2017, Lobaugh, Bieniek, Stephens and Pincha, 2017). Changing the flow of rewards to labour over capital in response to technology and to assist transitions presents a complex problem set for policy makers but

also employers. The latter require responsive and capable workforces but out-sourcing and contractual models arguably lessen knowledge of individual operations, cultures, values and ways of working. This is potentially escalating given the number of transitions individuals will need to undertake to remain in work. Assumptions regarding the availability of capability and who will bear the cost of funding acquisition appear to have received less attention in a number of the global studies (European Commission, 2010, EY, 2016, WEF, 2016) but are an increasing reality for many workers.

Bessen (2016) notes more positively occupations examined by Frey and Osborne (2013) have not been completely automated, but concedes this may occur due to artificial intelligence impacts. Automation may effect some small net employment increase from efficiency based re-allocations or computer-enhanced occupations. Global surveys show robotics and cognitive technologies increase hiring (Schwartz, Bohdal-Spiegelhoff, Gretczko and Sloan, 2016). However Bessen (2016) observes the change is associated with greater 'in occupation' wage inequality as new, 'in demand skills' are more expensive or difficult to acquire and rewards accrue to a smaller group. Mature workers will likely be more vulnerable given patterns of access to learning – with opportunities directed at younger workers.

And where they do invest it is unclear if they are aware of potential challenges to the assumed rewards for their acquired skills? Until now, Brynjolfsson and McAfee (2011, 2014) argue, human labour adapted through education and new skill acquisition to “out-run” labour substitution by technology and other economising activities. The shift of computing capability into computational and higher order activities makes this problematic. Big data and sophisticated algorithms allow connections to be made and tasks automated expeditiously e.g. disease identification, fraud detection (Chen, Argentinis & Webber, 2016, McAfee and Brynjolfsson, 2012, Raghupathi and Raghupathi, 2014). However the exposition of these issues at an individual level is not indicated and the implicit concern is that old adaptive models still hold sway.

New competitors across sectors are able to disrupt incumbents by using technology innovatively to create new markets often commencing in areas of small demand as a springboard and with much lower delivery costs (Christensen and Raynor, 2015). There is conjecture whether the disruptive innovation notion has morphed from

radical change to represent a “normative theory of innovation and competitive response” Christensen, McDonald, Altman, and Palmer (2018, p.29). Denning (2015) and King and Baatartogtokh (2015) argue the greater value lies in directing attention to the need to respond to ongoing, substantial, technology-driven changes in production and distribution by incumbent and new providers across all sectors. In directing attention to the factors which lead to such change they highlight the importance of the organisational model. Labour arrangements and how they are changing emerge as critical issues for individual workers seeking ongoing employment and knowing how to adapt their skills to often unclear horizons. They are not canvassed in this literature perhaps underscoring the difficult position faced by mature workers.

In response to the scale of change Sundararajan (2017) contends individuals may need to become micro-entrepreneurs selling their services through platforms – a view advocated by Manyika, Lund, Chui, Bughin, Woetzel, Batra, Ko, and Sanghvi, (2017) . Educational offerings would be geared to facilitating transitions along with support arrangements for housing, credit and community. Mid-career interventions would be commonplace to effect such adaptation

Such an approach would give workers in flux a new identity and sense of purpose and enable them to rebuild their self-worth.

However, radical overhaul of institutional and social arrangements supported by governments would be necessary to address risks of precarity. Schwartz, Bohdal-Spiegelhoff, Gretczko and Sloan for Deloitte (2016) point to the “gig economy’s” arrival seeing labour available globally while individuals lack the security of traditional, formal employment agreements. Pervasiveness is demonstrated with estimates one third of USA workers are freelancers with predicted increase to 40% by 2020 (Bersin, 2016).

Such perspectives convey dramatically different work models with prospectively lower rewards and security than mature workers may expect or have experienced. They explicate how learning may need to become a constant with marked changes in discipline application and longevity. Dawson (2013) looked at issues for mature individuals entering the physiotherapy profession. She noted significant potential for disruption to traditional ways of working, to the ideal professional community of practice and its scope for on-going provision of learning: albeit the majority’s aspirations shaped as students for that

remained. But she observed a case where the individual sought niche work to foster on-going learning and progression. She concluded “It seems that in modern society individuals may be beginning to self-manage their careers more in this way” (p271).

There is value in raising issues for mature learners beyond accessing and completing education – which features richly in the literature³. The demanding scenarios canvassed around the changes to employment from my literature research were as shared directed to explicating an emerging, different world of work. Less was available on how this might be translating into specific consideration by mature learners to garner the most from educational engagement. Some raised issues including seeking immediate application (Keating, 2010) or prospective difficulties managing contract based employment (Robertson, (2014). The literature research indicates there is scope to enhance understanding as to how mature individuals see the future and capacity to navigate as a result of their learning engagement.

Another aspect which emerges relates to how to achieve this with scale, responsiveness and flexibility. A number of papers directed to mature learners address them as seeking engagement for a few years or as peripheral contributors with a retirement focussed mindset (Field and Lynch, 2008, Pillay, Kelly and Tones, 2008). However if the pace and magnitude of change in work is as predicted then addressing the position of mature workers becomes both a mainstream issue and one experienced for significant periods in working life as raised by Manyika, Lund, Chui, Bughin, Woetzel, Batra, Ko, and Sanghvi, (2017).

Indications are that employment involving complex perception, creativity and social intelligence is less susceptible to job loss (Bessen, 2016, Frey and Osborne, 2013) but raises challenges regarding capability attainment and nurturing, and what areas of employment. While acknowledging the bifurcation of employment and the competition for

³ Boyle and |Abdullah (2015) - motivation factors and aligning support; O'Shea and Stone (2010) - personal transformations recognition and support; Reay (2003) and Reay, Ball, and David (2002) - intersections of age, class, gender and education transition; Smith, Dymock and Billett (2013) - valuing and articulating wisdom; Siovonon (2016) - perceptions re competence in transitions; Stone and O'Shea (2013) - return to study experience; Taylor and House (2010) - individualised support.

meaningful work, Burt, Locke and Wilson (2018) argue for education changing to equip people to solve wicked problems in ways that contemplate changes in career, in the way disciplines work and give societal value. Better outcomes are anticipated in terms of on-going employment, income and securing solutions to global problems. Educational offerings will need to change in concert with more frequent accesses to meet the changed environment. Their work addresses younger generations in prospect of higher education but could be extended to mature individuals given support in terms of access and potentially funding.

Employment losses and income stagnation associated with digital innovation may temper optimism from new models of education employment however, aggravated by significant inequality where a few skill groups accumulate or corral the benefits - a “winner takes all” (Arthur (2017, Brynjolfsson and McAfee, 2015). Previously more education was seen as increasing people’s learning capacities with benefits for themselves and society, but this simple relationship aspect of Human Capital Theory is severely challenged if rewards divert to small groups or decrease in quantum (Livingstone, 2012). It also ignores the critical social capital which underpins effective participation including social infrastructure – elements present in both Coffield (1996) and Sundararajan (2017)

Rees (2013) highlights the ‘bounded agency’ in play; so whilst the individual may seek to determine their participation in adult learning, structural conditions and individual disposition also impact. This may entail having to find access or take on new or different norms of behaviour to secure opportunities – made more difficult by trends such as gig employment and skills decay. But the overriding rationale is always “work directed” to support economic competitiveness and growth in the global economy devaluing social objectives (Bowman, McGann, Kimberley and Biggs, 2017). He references the proselytising of the “education gospel” with its narrow economic focus to education and over-hyped benefits accompanying the shift to the individual to manage the learning journey with potentially much less certain rewards.

The criticisms of Rees (2013), Robertson (2014) and others notwithstanding it is unlikely governments such as in Australia will radically change policy to shift the direction of learning accountability for adults. This applies across the major conservative and labor parties whose policies support individuals funding their education. Arguments may see

some additional enablement via financial assistance to undertake skills enhancement but policy has stepped away from assuming accountability for having specific capability pools to facilitating individual movements. For example previously Australia set funding for tertiary education but changed this to a demand driven system in 2012 under a Labor Government (King and James, 2013) where individuals determine what and how they will undertake tertiary learning.

Bowman, McGann, Kimberley and Biggs (2017) note the skills focus and views that individuals need to invest in themselves downplays the degree of age prejudice. They argue employability is fundamentally linked to prevailing power relations pointing to gender and age having particularly negative impacts on older workers. It indicates why better insights into mature individuals' approaches and beliefs about education are important if they are to be optimally assisted.

Reasons for older people staying employed and extending working lives are multiple – social, economic necessity, straitened government finances and reduced welfare, skills shortages (Withnall 2012). Individual employment patterns are changing in consequence. Withnall (2011) also references increasing blurring in notions of retirement. She cites Kidashi and Manheimer (2009) five life styles typology: Golden – a traditional retirement; Neo-golden – characterised by informal learning and self-development; Portfolio life – seeking balance between paid work, family and activities; Second career – embracing new ventures e.g. establishing a new business; and Extension of midlife career – seeking to continue an existing career for as long as possible (p.660). The modelling underscores variable trajectories emerging in what previously was signalled as *the* retirement age. The greater diversity suggests multiple transitions with associated issues for the educative process: content, delivery and access. It challenges models that while well-meaning in seeking to support employment present narrow perspectives on mature workers and their capabilities e.g. The Ageing Population Report, 2013.

Lyons, Schweitzer and Ng (2015) Canadian study of over four generations of professional workers delineates replacement of the

... linear, upward “career ladder” perspective with a “chutes and ladders” model involving a mixture of upward, lateral and downward moves and enacting “serial careers” involving numerous changes of occupation (p.8)

Managing this complexity puts new demands on workers (Carlaw, Oxley, Walker, Thorns and Nuth, 2012)

The ILO (2016) suggests substitution of physically demanding work and affirmative attitudes to technology by more experienced workers can be a positive, including when accompanied by inter-generational collaboration (De Grip, 2004, Ng and Feldman, 2012, Weinberg, 2002 cited in ILO, 2015, p.59). This rhetoric of moving to 'age-tolerant' occupations continues to place accountability on mature workers. Moreover without policies that facilitate transitions and which recognise individual capabilities and needs, poor outcomes are inevitable (Brown, Lauder and Ashton, 2008, Peterson and Murphy, 2010). If subsequent learning in transitions is circumscribed to narrow views of work this will restrict skills, contributions and the mindsets to adjust - reinforcing prejudicial views.

In assessing the possible magnitude and ubiquity of change, the WEF's *The Future of Jobs* (2016) designates this as the beginning of a 'Fourth Industrial Revolution' (Schwab, 2015). Technology developments from robotics to biotechnology and smart systems' pervasiveness will radically change production, employment and consumption. These are transpiring in a time of changing socio-demographic, economic and geo-political patterns which WEF (2016) argues have the capacity to intensify interactions and outcomes. Job implications are radical: how people will work, where and at what. Timeframes for acquiring very different skill sets will likely operate with minimal time lag as ecosystems change.

Some believe the Fourth Industrial Revolution's scale is potentially less than the Industrial Revolution whilst expectations from accompanying changes are overly optimistic (Das, 2016). Others state the elements cited represent a continuation of the current third industrial (digital) revolution but are nonetheless "fundamentally changing the way we organise our economic, political and social life" (Rifkin, 2016) and may bring substantial benefits if distributed effectively. Scwab (2015) argues for a critical need to address globally economic, cultural, social and human environments if the re-shaping is to be effected in support of human values. None appears to deny the rapidity of change in work and the need to be able to adapt.

Considering particular sectors relevant to this research, WEF (2016) profile of healthcare in advanced economies, states the job outlook is stable. Demand is increasing due to greater longevity. However employment growth is being offset by negative impacts from disruption arising from technology and changes to skills profiles. Unsurprisingly WEF (2016) contends educating and placing people in job categories likely to undergo short-term drastic change will be self-defeating.

Support for sector change is widespread. Choudoury, Subramanian, D'Sa and Rajamani (2013) and Taylor, Ronte and Hammett (2014) predict better informed consumers will demand to be partners in their care; digitised business models will impact service delivery integrating digital health and human interaction data; wearables and applications will be directed to quality of life - not just "clinical indicators"; and "big data" will underpin new tools and provider models (Hall and Van Gool, 2017, Mead, 2017). Deloitte (2016) delineates moves to patient-centred health care provider operations with delivery moving from individual physician/speciality orientation to team-based modes with multiple specialists (including social workers) and applications (Atluri, Cordina, Mango, Rao and Velamoor, 2016, Estupiñán, Jaime, Kaura and Fengler, 2014). The Australian health sector's productivity raise issues of securing efficiency improvements (Harper, 2016) and embracing global developments.

Aligned is recognition individuals will need education and training to retain roles: life-long learning is and will be a necessity (Glastra, Hake and Schedler, 2004, Gratton and Scott, 2017, The Economist, 2017, van der Heijden and de Lange, 2011). But this requires people being cognizant of job disruption and finding ways to adapt. Abbosh, Savic and Moore (2018) point to the disruption process' increasing ubiquity albeit taking different forms depending upon sector - further complicating the search and evaluation process (Withnall, 2012).

Kasriel (2017) stresses workers will need retraining for differently or higher skilled jobs and improved geographic access given work is more distributed - internally and externally. He argues one-third of the essential skills needed for jobs in 2020 are under-appreciated or unknown.

The biggest barrier to more work is anticipating change and training our workforce on the skills our economy will need, and finding ways to surmount geographic barriers that keep people from the best jobs (2017)

Transition issues risk growing unemployment, inequality and a shrinking consumer base. WEF (2016) examined fifteen economies employing approximately two thirds of the world's total workforce drawing insights nearly 400 largest global employers⁴. The analysis suggests 7.1m in job losses over 2015-2020. Impacts may be underestimated given employment in other entities not immune from change (e.g. not for profits, public). The trend is anticipated to be aggravated to 2025 due to on-going change.

An additional issue lies in skills' instability or decay (WEF, 2016) which exacerbates workers' difficulties in adapting to remain employed (Bradlow, 2015, Gratton and Scott, 2017). The EC (Crosier, Horvath, Kerpanova, Kocanova and Rihelainen, 2014) foreshadows a need for re-skilling and up-skilling talent across academic and vocational backgrounds in all industries.

Robertson (2014) takes issue with the way education is being "re/constituted" to facilitate new and existing forms of production under the impetus of what she sees as effectively a social construct i.e. the "knowledge economy" whose purpose is to underpin capitalism or defer its demise. She points to tendencies to individual accountability from an early age for coping with radical change in the skills that will be needed accompanied by "intensifying competitive individualism" (p.167). Further concerns stem from the rhetoric in support of a high-valued added economy and concomitant roles, dependent upon a lower paid and casualised workforce.

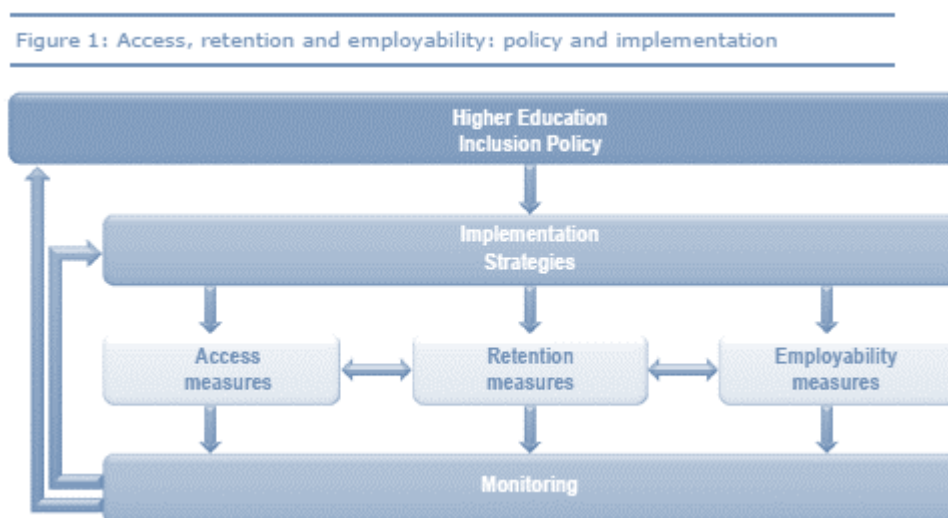
But the problem remains that knowledge and information are being used to change production and its distribution. Inevitably demands will be placed on education systems to facilitate people's on-going participation and capacity to secure benefits both individually and collectively. Given the scale of the issues there would appear very significant reasons

⁴ WEF Report (2016) - 13.5m employed across basic infrastructure; consumer; energy; financial services and investors; healthcare; media, entertainment and information; mobility; and professional services. Job family variations are significant: compound growth estimates for 2015-2020 for computer and mathematical is +3.21% but -4.91% for 'office and administration' (p.12).

to explicate that challenge with information to those affected; and arguably coalitions of individuals, educators, policy makers and employers to address the issues raised.

Changes in work have been building. Reviewing data from 1993 to 2010 for Western European countries Goos, Manning and Salomons (2014) point to significant job divergence. Roles have polarised, remaining at the high-paid professional end and in low-paid positions, with substantial reductions in the middle targeted at manufacturing and routine office work (Boehm, 2014, Hurley, Fernández-Macias and Storrie, 2013, Siu and Jaimovich, 2012, Autor, 2011).

Figure 1: Interplay of factors in the education/work cycle



Source: Crosier, Horvath, Kerpanova, Kocaniva and Rihelainen, 2014, p.5

In seeking broad and effective higher education that addresses employability and social cohesion, Crosier et al. (2014) illustrate the interplay of policy, strategy and appropriate monitoring and measurement (see Figure 1). They place emphasis on retention in underpinning workers' acquisition of on-going capability. This accentuates the criticality of policy makers having mechanisms for evaluating overall skills sets emerging from investment in higher education, and using this to provide signals and support to addressing gaps which impede participation.

However, Handel (2012) expresses disquiet that having skill sets applicable to a narrowing set of jobs or without opportunity for new skills acquisition is a form of social

precarity. Non-traditional workers and many blue collar occupations or with less access to information and/or lower mobility are more vulnerable. Information regarding jobs may require networks and familiarity with search techniques and technologies; while mobility to obtain new roles may be socially or financially restricted (e.g. existing housing, family commitments). It also requires informed education decisioning to secure on-going skills and capabilities. Mature workers are more exposed.

Globally governments have been moving to increase retirement ages, postponing access to publicly provided benefits given public savings impacts from rising longevity and aging (OECD, 2015, Sonnet, Olsen and Manfredi, 2014). Employment rates for workers aged 55-64 increased on average in OECD countries from 52% to 57% from 2005-2015 (OECD 2015).⁵ But assistance to mature workers is variable while problems from not securing work are increasing as social security access is deferred.

McKinsey Group's, Kirkland (2014)⁶ raises the paradox of rising productivity with declining employment (from technology advances e.g. machine learning) and stagnating incomes – a 'decoupling' effect. This reiterates views that technology's benefit is likely to be unevenly distributed (Brynjolfsson and McAfee, 2012, 2015, 2015). Similarly, Howard (2014) flags severe social disruption if more people aren't secured into effective participation advocating for deep consideration of options for, and enactment of, redistributive policies. Concerningly, Shiller (2014) argues the individual's sense of identity is under threat:

It's associated with income inequality, but it may be more than that. Since we tend to define ourselves by our intellectual talents, it's also a question of personal identity. Who am I? Intellectual talents are being replaced by computers. That's a frightening thing for most people. It's an issue with deep philosophical implications. (p.3)

⁵ Germany's retirement age is moving from 65 to 67 years with programs to address declining projections of people of working age. Similarly - USA and Australia are moving to 67 by 2023, New Zealand to 67 by 2030 and Denmark, France, Italy and Spain to 67 years)and Britain and Ireland to 68 years by mid-2020s (Australian Treasury, 2010, Boccia, 2015, Finnish Centre for Pensions, 2017, OECD, 2015)

⁶ Interviews with technology experts and economists - World Economic Forum, Davos (2014).

The policy directed nature of the literature points to the need for change at a macro level and by industry or sector, but it is important to understand how individuals may be viewing the situations unfolding or contemplated. Schiller's (2014) and Arthur's (2017) attention to the person gives some sense of the depth of challenge posed. There is value in having policy makers, industry and organisations more aware of the complexity of the workforce issues and in exploring these at the coalface to give greater nuance to discussion and ideas for assisting mature workers.

Grattan (2011, 2015) states greater longevity means people will need to “retrain, refocus and relearn” (p.34) at various career points: from sprint to marathon! But she argues employers are unable to provide certainty and exacerbating this is leading to changed work practices and less job security. Gendron (2011) argues the new economy will be built around a knowledge value chain using human systems (experience and knowledge) to extract information necessary to drive the business process. The outlook is global. Two models are posited in support of the necessary mindsets: one using “competency based learning, team work and collaboration in networks” and the other around personal continuous improvement and organising to effect sharing and trust while achieving a “balance between personal and social emotional competencies” (p. 1229). How relevant information will be available is left unaddressed as is the significant issue of timeframes for adaptation and who bears the risk and cost. It signals a significant gap in how such transitions are to be effected. The suppositions regarding information, access and resources affirms the importance of coalescing educators', policy makers' and employers' inputs.

All of this pre-supposes a capability to address structural issues (Robertson, 2014). The shift to individual accountability brings heightened stakes for mature workers as the “wrong” training or learning and cost consequences are spread over smaller employment or earnings' horizons.(Per Capita, 2014).

This section has canvassed issues entailed in the changing nature of work. Argument for new skills being necessary to master re-constituted roles and to engage in new ones – emerging or in prospect is presented. Accompanying this are presumptions that individuals will assume the accountability to manage the acquisition and maintenance

of capabilities to persist in work. The cost and risks of those presumptions are shown to be under-recognised in some of the reviewed literature. Exploring mature workers' understanding and actions can inform stakeholders – governments, organisations, professions and educators – to better influence and address successful transitions.

2.3 The Australian Context

Applying a model derived from Frey and Osborne (2013), Durant-Whyte, McCalman, O'Callaghan, Reid and Steinberg (2015) showed 40% of Australian jobs over the ensuing 10-15 years are highly susceptible to computerisation and automation; in consequence job modifications and losses will follow. The conclusions support the earlier work that jobs with characteristics of creativity, analysis and personal skills and non-routine activity are less exposed to adverse impact.

PwC (2015) estimates computerisation and technological change will put 44% (5.1m) of current Australian jobs at risk over the following twenty years. A lack of new industries and activities to absorb the change prospectively entails further dislocation from

... uncertain international conditions, continuing poor business investment, slow wages growth and mixed labour market conditions. (DIIS, 2017, p.14)

Government and industry organisations have continued to expose the risk (AICD, 2016, AIG, 2016, BCA, 2015, CEDA, 2016, DIIS, 2015, IBISWorld, 2016). PwC (2016) states real living standards have been declining since peaking in 2011 with consequences for future growth and quality of life. They argue for sustained productivity and competitiveness improvements and facilitating innovation and collaboration. This requires a skilled workforce including addressing poorer participation rates for older people. (Participation is 12.9% for those over 65 years vis-à-vis Iceland at 36%, Korea at 32% and New Zealand at 21%).

Evaluating options for redressing jobs loss from falling competitiveness Lydon, Dyer and Bradley (2014) argue for tackling non-traded sectors. The “domestic core” with over half the jobs (including services e.g. health) influencing overall competitiveness with increasing exposure to global trends. They note poor transparency on jobs and training and the increasing significance of “interaction based jobs” – carrying “higher levels of reasoning, judgement and the ability to manage non-routine tasks” (p.24).

They conclude people lack information to make well-versed choices about education, training and careers. Accountability is placed squarely at business, community and political leaders. They argue for 'education-to-employment' programs bringing employers, educators and employees into course design, faculty, hiring, and intensive and on-the-job project work.

The conventional, linear model where enrolment leads to skills, which leads to jobs is replaced by a model where employers commit to hire individuals before they are enrolled in a program to build relevant skills (p.51).

But the model appears scaled to the largest employers, ignoring that much future employment will emerge from small to medium sized entities; further such "educational" offerings risk dependency on a particular firm.

Mature workers become more vulnerable if they are less adept at adjusting skill sets and capabilities and if education providers' and employers' mindsets and models are geared to younger people. Even the BCA (2014) despite advocacy for mature workers commented "an older population may also reduce risk taking and innovation" (p.4), while simultaneously arguing for a shift away from

... training for a particular job, to a system that equips people with the capabilities and skills required to compete in a technology-enriched, globally traded labour market, regardless of their qualification (p.18)

Digital disruption is changing work: including machine learning with computers providing "intelligent decisions" through processing massive data; 3D printing disrupting supply chains and places of production and consumption; and crowdsourcing or derivatives enabling entities to garner resources and distribute to a global array of clients. Individuals face a higher potential for being locked out of employment PwC (2015).

PwC (2015) postulate ideas for "future proofing" the economy through investment in Science, Technology, Engineering and Mathematics (STEM) to support innovation and digital technologies with potentially increased GDP and productivity while being job accretive. They state without such critical skills, globally-based production changes will see Australia face lower growth and quality of life. Practical implementation and how the value generated is captured and by whom is not addressed, albeit pointing to the need for coalitions of government, business and education institutions.

The notion of 'future proofing' an economy is debatable given the major and often unpredictable shifts that can impact. Identified thematic areas which may be relevant include climate change, resource use, pandemics, geo-political instability and technology to name a few (EY, 2016, Gartner, 2017, WEF, 2016, World Bank, 2018). Even the notion of innovation is itself nebulous as it assumes there is effective demand for production. And there is the very fluid notion of over what timescale. The focus on STEM may itself be problematic according to Sundararajan (2017):

As the cognitive capabilities of digital machines expand, students may need less education in science, technology, engineering, and math and may benefit from a greater emphasis on design thinking, entrepreneurship, and creativity to prepare them for a microentrepreneurial career.

However the expression's usage and calls for accompanying investment in innovation appears an ambit term to attend to the range of influences and gravity of the situation if workplace change is not recognised and accommodated. Notwithstanding, these perspectives affirm the difficulties for individuals seeking to determine and execute education models that will deliver on-going work.

Requirements for high social and creative intelligence, problem solving and analytic abilities feature in contemplated work changes with the focus invariably on younger people (BCA, 2003, CEDA, 2016, Colley, 2014, Encel, 2003, PwC, 2015, Smith, Smith and Smith, 2007). The Foundation for Young Australians (FYA) (2015) states young people are not being trained for jobs that will survive automation. Parker (2018) notes Australia has over 70% of people under 40 participating in education, arguing they should not be relying on dated views of how professions, occupations and related financial security are likely to change - but this applies equally to older people.

Encel (2003))⁷ comments work life extension is an issue for industrialised nations reflecting increasing life expectancy, ageing populations, public funding pressures, income provision shifting to individuals' savings and concerns over age-discrimination and unemployment amongst older workers. The resultant ambition is for prolonging working

⁷ Report for Australian Council of Trade Unions (ACTU) - peak union body and Business Council of Australia (BCA) - representing large business and the professions

lives and affording them opportunities. Practical recommendations include maintaining capabilities to facilitate transitions and informing understanding and choices about employment's changing nature. Also flagged is addressing negative stereotyping.

The BCA (2003) states the unfolding business environment requires

.. challenging entrenched life-cycle mindset(s) that see a one-way path from full-time education to full-time work to full-time retirement. Life-long learning, phased retirement and the capacity for individuals to engage and re-engage in the work force at different levels of intensity are likely to be characteristics for business, economic and social success in the future... social and economic infrastructure (needs to be) capable of supporting this (p.7)

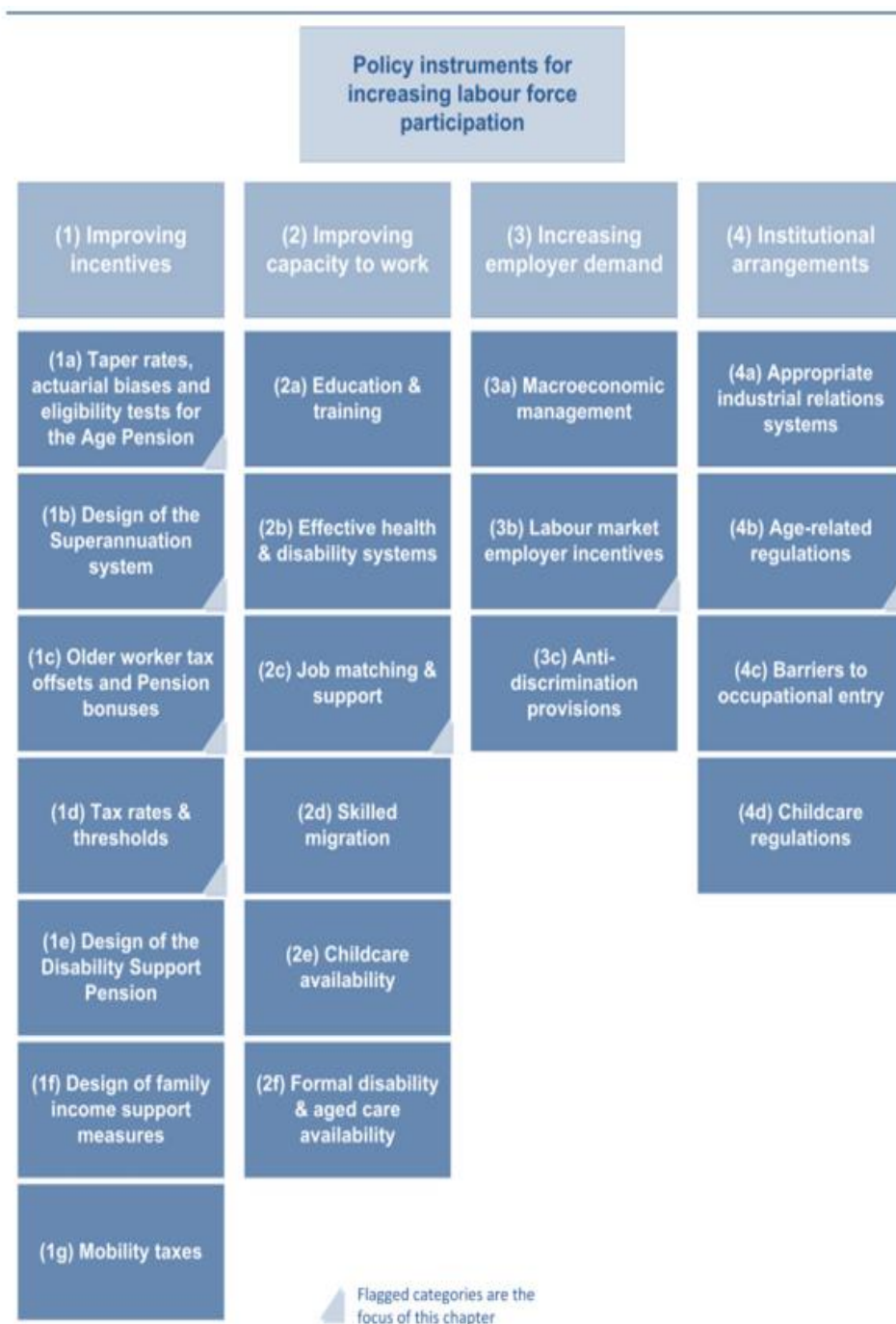
Keeping workforces attuned to skills and capabilities for on-going success is a necessary complement to managing dislocation and disenfranchisement (Brynjolffson, 2015, Manyika, 2017). Although Colley (2014) flags a tendency to generalise differently shaped careers as constituting “non-participation” rather than appreciating modern work’s call for different pathing and making this acceptable. Exploring mature workers’ view of the education/work path may secure insights to address potential dislocation.

Illustrative is Barsh, Brown and Kian (2016) research addressing factors contributing to the millennial⁸ generation’s successful employment. They state millennials work differently: hyper-connected and questioning; they seek flexibility, opportunities to build in networking and mentoring, cross-functional work, exchange programs and increased real time communication. Assuming these elements mirror future working environments, then extension to all employees would seem apposite. The lack of a holistic conceptualisation of the workforce that is, and could be, disadvantages mature workers and circumscribes views on potential contribution – for instance the Australian Government’s Inter-Generational Report, 2015 assumes mature individuals will secure work without addressing their particular needs.

⁸ Millennials (or Generation Y) – commonly defined generational demographic cohort following **Generation X**. Demographers/researchers typically use early 1980s as starting birth years and mid-1990/early 2000s as ending birth years.

A Productivity Commission (2013) report flagged four broad categories for increasing participation, Figure 2: improving incentives and capacity to work, increasing

Figure 2. Removing barriers to labour force participation



Source: Productivity Commission, 2013 p.178

employer demand and addressing institutional arrangements (p.178). Australian Government stated policy⁹ has moved to extend working life and encourage participation (Colley, 2014) but without explicit policy actions and concerted stakeholder involvement to effect change little has eventuated. In seeking solutions Bridgstock (2009) argues for lifelong “career management” capability with individuals

... constantly engaged in reflective, evaluative and decision-making processes using skills for self-management and career building based on certain underlying traits and dispositional factors, to effectively acquire, exhibit and use discipline-specific skills in the world of work. (p.35-36)

But this remains an individual accountability with the skilling process acquired significantly throughout undergraduate studies. She acknowledges issues for inclusion in often crowded curricula and to be on-going post-university. Moreover the orientation is to younger students with more time to acquire skills.

Sultana (2012) notes problems for career management programs in distinguishing between individual agency and building capability to manage career vis-a-vis recognising their inadequacy to address structural problems. There is also the distinction between more immediate learning for work - enhancing coping and adaptive skills versus those addressed to learning about work and self-understanding and capacity to reflect. Hooley, Watts, Sultana and Neary (2013) point to a propensity for reductionism and creating “imagined journeys of development”. Evaluation of what is delivered is problematic given the inherent cost in such undertakings (Hooley, Watts, Sultana and Neary, 2013, Sultana, 2012).

An ‘Australian Blueprint for Career Development’ was developed in 2005 (DET, 2015) following Canada’s model but never made universal. Mature workers could benefit from such programs although clarity is needed re expectations assigned to the individual to wholly manage a changing work scene without assistance. Research regarding the dispositional factors prevalent in mature worker/learners would appear highly relevant.

⁹ This includes financial signalling and taxation and superannuation incentives to lift retirement savings, allowing gradual transition to retirement whilst increasing age thresholds for pension eligibility (Centrelink, 2016).

The Inter-Generational Report (2015) projects older Australians will increase from approximately 13% to 17.5% of the workforce over 2014/15- 2054/55 (p.18) from longevity increases and improved 'health expectancies' and participation facilitated by less physically demanding work and new technologies. Work availability is assumed with individuals having the skills to adapt - the grounds for this are highly moot in the absence of concerted strategies involving all stakeholders. Current data suggest workers (+55 years) are unemployed for nearly 90% longer than those aged 15-54 (McKenzie, 2015, p.90) while underemployment is higher for older workers – especially aged 45-54 (Li, Duncan and Miranti, 2012; McGann, Bowman, Kimberly and Biggs, 2015).

A 'perfect storm' of pressures requires the workforce to transition faster and differently from the past states CSIRO (Hajkowic, Reeson, Rudd, Bratanova, Hodggers, Mason and Boughen, 2016) . Megatrends distinguished include:

- Exponential growth in computing power, device connectivity, massive data availability, and artificial intelligence accelerate with net job losses.
- Entrepreneurially driven activity changes the global labour market from traditional employment patterns to flexible, contractual, less secure forms including direct disintermediation effects of the peer to peer marketplace e.g. *Task Rabbit*.
- Changing demographics leading to an older, more culturally diverse workforce.
- The shift to a diversified services-based economy with knowledge and innovation exports reflecting the changing global economy and trade.
- Employment bifurcation to highly skilled complex work and automation or off-shoring of lower skilled/repeatable work.
- Growing high touch, socially interactive services industries accompanied by increased emphasis on ethics and connectivity.

Successful navigation will necessitate attention to education, skill sets, workforce resilience and adaptability on an unprecedented scale relative to the past. Those in more vulnerable job skill sets and demographics will require assistance to participate. Freelance operating models add to the uncertainty. For the individual, nurturing a career portfolio would entail skills in negotiating on-going employment, capability upgrade and professional development (Briscoe, Hall and De Muth, 2006). These are not costless in time, risk or investment terms (Sultana, 2012).

Collin (2011, 2011) expresses reservations that building specific “career portfolios” risks people uncritically employing ideologies or theories of what might be possible or desirable for themselves to secure work. This may lead to positioning to conform to particular stereotypes and into work which may not serve individual best interests. Yet most employment requires portfolios to secure a role. Mature workers need to be informed to derive their best outcomes.

Less well remunerated occupations face greater disadvantage. Borland and Coelli (2015) highlight increasing income inequality in Australia since 1990 consistent with new information technologies replacing ‘routine’ work. Coelli (2015) suggests the education and earnings gap - which was slower to emerge vis-à-vis other developed economies, will be exacerbated with technological influences accelerating. Accordingly, the challenge of finding relevant, accessible and engaging educational activities will conceivably loom large affirming value in critical appraisal in structuring portfolios.

Retirement will be postponed (BCA 2003, CEDA, 2015, PwC 2016) to address needs for workforce participation, productivity and financial security. Investigative effort will be required to understand how jobs may transition. The less linear outlook requires attention to workers re where there is employment and requisite education/capabilities and assistance to business to adapt their models (Productivity Commission, 2013).

The concept of career and how it is managed in practice varies significantly across nations. In Australia the shift from a unionised workforce¹⁰ to more market driven models indicates increased individual negotiation (Davies, 2010, Davies, 2014). Employment has been in the growth sectors embracing tertiary, quaternary and quinary industries dealing in services and information (Connolly and Lewis, 2010, Downes and Stoeckel, 2006, IBISWorld, 2016). Figure 4 shows the rise of service sector industries in terms of GDP contribution – with health growth amongst the highest. Figure 5 shows employment by percentage terms as at 2016. Service industries typically have more fluid employment

¹⁰ Trade union membership fell from 40% to 17% over 1992-2014 (Kelly, 2015). Structural factors have been instrumental especially manufacturing’s decline - which was heavily unionised (Toscano, 2015).

Figure 3: Australia GDP change by sector 2011 to 2016

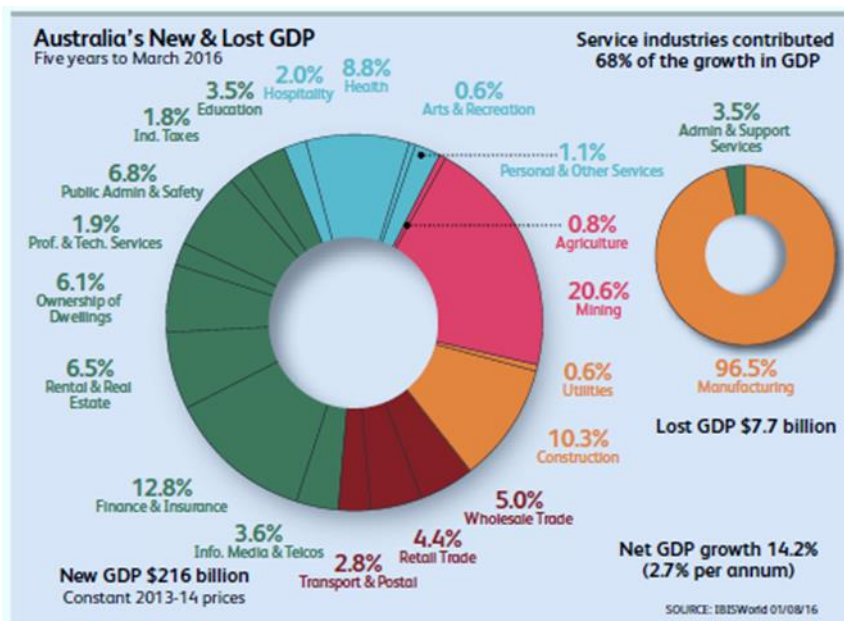
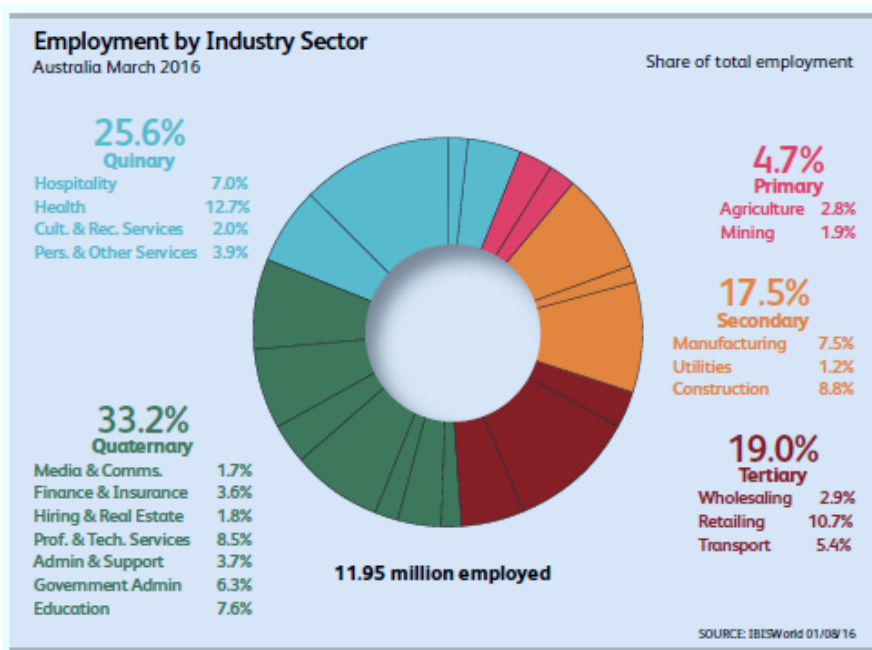


Figure 4: Australia Employment by Industry Sector March 2016



Source: IBISWorld, 2016

arrangements - part-time and contract work is more common contributing to income variability and job instability (ABS, 2012, DIIS, 2016.).

The Australian health sector is undergoing change which is anticipated to accelerate (BCA, 2015, Carati and Margelis 2013, Sammut, Henderson and Smeaton, 2017, SARRAH, 2017, Taylor, Blount and Gloet, 2017, Topol, 2010, 2015, Wolever, Moore and Jordan, 2017). One estimate puts \$23bn of the \$130bn sector at risk of digital disruption driven by cost pressures and consumers becoming more value conscious and seeking better experiences (Clarke, 2015).

Digitisation can potentially lower health costs and increase client reach by providing self-management tools (Kanagalinam, 2016, Nam 2014) or using facilitated user networks (Hwang and Christensen, 2008). Technologies foreshadowed to disrupt the sector embrace behavioural issues and their management including augmented reality (AR) for wellness applications, robots for digital behavioural health services, and virtual reality for stress relief (PwC, 2017). PwC (2015) has estimated social and welfare workers probability of being automated at 6.8% - at the high end of the professional spectrum. Awareness of such trends is canvassed with mature learners in this study.

2.4 Perspectives on the Work Life Cycle

The simple linear perspective of a typical Australian adult working life (education/training-work-retirement) has been challenged by economic and social trends over the past 30 years (ABS, 2001, CEDA, 2015, McCrindle, 2014). Evidence of the change is seen in the following variables:

- **Job Stability:** Job tenure shows a national average of 3.3 years (McCrindle, 2014) based on voluntary turnover. Projected tenure patterns suggests today's school leavers will have 17 different employers in a working life extending from 18 to 75 years (McCrindle, 2014). By contrast in 1975 workers aged over 45 averaged almost 10 years per job falling to 6.66 years in 2013. In 1975 just 8% of those aged 55+ stayed less than a year doubling to 15% by 2013. The data indicates people undertaking different jobs and changing more frequently.

- **Participation in study:** The 2016 adult population (15-64 years) was 15.7m with over 3 mn in formal study: 16% - 25-34 years, 9.2% - 35-44 years, 5.7% - 45-54 years and 2.7% -55- 64 years. Of the adult population 43% had tertiary education in 2015 (DIIS, 2016). Women (25-64 years) studying increased from 7.9% to 10.5% in the last decade compared with 5.7% to 7.2% for men. (ABS, 2016). Education is occurring at different points in the life cycle but under-representation of mature individuals is concerning along with skills mismatch with Australia ranked 7 out of 22 in the OECD (DIIS, 2016).
- **Level of qualification:** OECD (2010) findings indicated 45% of Australia's population aged 25-34 had tertiary education - 37% with bachelor degree or higher in 2015 (DIIS, 2016). This is a marked intensification with only 58% of 55-64 years having completed upper secondary school. Despite lower attainment levels among older Australians, adult participation throughout life is comparatively high. Most mature students choose tertiary-level studies. In 2010, 27% of all first-time entrants into tertiary-type programmes were over 25 years.
- **Female workforce participation:** Participation rose from 50% to 71.7% between 1978 and 2016 accompanied by increased penetration of professional and high skilled roles (ABS, 2016) suggesting women are embracing more education to enable progression. They comprise the highest portion of post-school university entrants.

The linear pathway is predicted to be increasingly inadequate or outmoded by the impetus of the global knowledge economy and technology which point to multiple jobs and careers (Craw, 2014, Gretczko and Sloan, 2016, Grothaus, 2015, OECD, 2001, 2015, Schwartz, Bohdal-Spiegelhoff, Sultana, 2004). Some models have emerged to give explication of this phenomena. These include Bauman's (2003) perspective that we live in 'liquid-modern' times, which critiques the notion of the durability of possessions; in particular, consumerist forms that push for increasing acquisitiveness followed by quick disposal. Applied to education it contemplates a risk of a propensity to disparage or be precipitate in overturning previously held tenets or experiences, influenced by the rapidity of the pace of change. This is exaggerated where established frames and structures are

perceived, or positioned, as inhibiting responsiveness and innovation with questionable argument or justification in 'pursuit of the new'.

Bauman (2003) highlights the unsolved difficulty for educators addressing a world 'over-saturated with information' and equipping people to manage this effectively (p.25). This raises issues: what core elements should be imparted? Should educators provide options to come in and out of education to remain abreast of new theories and practices while securing sufficient building blocks to be able to address issues and problems coherently? How are employers to be included? Concomitantly how should professions respond – what will be sufficient to coherently represent a discipline and be contemporaneous with changing applications of that capability – many of which may presently be unknown?

A substantial dilemma arises for individuals in determining what employment to seek and which capabilities will equip them to continue working. The process is more difficult for older workers who have absorbed "education to work" paradigms from more "stable" or predictable times (Johnson, Kawachi and Lewis, 2009, Price, 2015). Field (2015, p5) cites Bauman's observations that in late modernity

Conditions of action and strategies designed to respond to them age quickly and become obsolete before the actors have a chance to learn them properly. (2005)

Peters (2004) references Lundvall, Archibugi and Lundvall (2003) that under technology's impetus product cycles and subsequently competency cycles are shortened leading to changes in work resulting in

... the new kind of competition (being) learning-based rather than knowledge-based in that the success of individuals, firms and regions depend increasingly on their capability to learn [online]

The potential for polarisation increases amongst individuals and across groups, sectors and regions as to who can effectively make the change. A similar thematic is indicated by Kossen and Pedersen (2008) and Billett, Dymock, Johnson and Martin (2011) where "good" jobs which offer a greater degree of permanency, include benefits of training and development support to make on-going change. This is to be contrasted with increasingly deregulated and insecure employment markets which push workers to

peripheral positions where skills are less and are not seen as an area for investment by employers (Lobaugh, Bieniek, Stephens and Pincha, 2017). Older workers are contended to be more at risk from this 'bifurcation' (van der Heijgen and de Lange, 2011).

Compounding the difficulty in being actively employed after a period of disruption. Choi, Janiak and Villena-Roldán (2014) studied USA life-cycle transition probabilities using employment data from 1976-2013. Participation drops for older workers as they stop searching on becoming inactive – reinforced potentially by sufficient resources or because the perceived trade-off benefit is insufficient. A majority of USA workers according to Pew Research Center (Horrigan, 2016) participate in work or career learning to maintain or improve job skills; but this was slanted to those with more education, higher incomes and from government and education sectors +80% falling to 60% or less for business.

Professional learners cited payoffs from “work-relating training” as expanding professional networks (65%) and organisational advancement (~50%) with below 33% seeing this leading to consideration of different careers (Guzman, Pawliczko, Beales, Till and Voelcker, 2012, Schlossberg, 1982).

Interpretation or understanding of what constitutes ‘educational activity’ sufficient to provide ‘deep’ learning adequate to address likely dislocations is problematic. Deep learning typifies an ability to translate information into “engraved concepts” (Offir, Lev and Bezadel, 2008, p.1175) which relate to life experience and provide for changes in existing thinking and assimilation. By contrast ‘surface learning’ acknowledges understanding of information but doesn’t change underlying thinking processes. Recognising the scale of disruption to employment and the episodic nature of some professional education - the tasks to shift behaviour and facilitate successful transition are great (Guzman, Pawliczko, Beales, Till and Voelcker, 2012).

Cummins and Kunkel (2015) sample of western OECD nations from 2011-2013 found countries with higher lifelong learning activity have higher mature age (55-64) participation rates and lower rates of income inequality. Engagement is heavily

dependent upon explicit government policies and funding support. PwC (2016)¹¹ estimated \$2.6 trillion additional global GDP for 2014 by lifting employment levels to Sweden's equivalent (index factor 78.2). GDP enhancement for Australia (62.8) approximated \$69bn or 4.7%. Factors contributing to better employment included reducing barriers, improving employability and policies facilitating later retirement. More flexibility from business was advocated – 'phased retirement', expanded and better access to training, and supporting age diversity.

2.5 Summary

This Chapter has canvassed the highly disruptive, pervasive and large scale changes to employment from the knowledge economy's onset and technological change. The literature signals learning and skills acquisition will be required on a constant, lifetime basis for individuals' on-going effective participation. Simultaneously increasing longevity, financial security and social engagement issues affirm the importance of participation in work. There is contention re nomenclature, substantial apprehension at shifting responsibility to the individual for managing the changes and regarding the tools available, and concerns that knowledge creation and its use requires substantive social and cultural structures which demand public investment.

Notwithstanding, there is importance in individuals being acquainted with potential changes and enabled to address them including via education. How is their understanding of themselves and the situations they face likely to influence responses to remaining in the workforce? Do they embrace rigid education-work-retirement models? What skills and experiences might they bring that would enhance their contribution? The views and likely responses of mature workers are important in explicating these issues, with public and individual benefits to be afforded in their being employed. Exploration may enhance the success of measures to retain their involvement.

¹¹ "Golden Age Index" examined employment market indicators for people +55 in OECD countries (PwC, 2016).

CHAPTER 3

LITERATURE REVIEW – ‘*the life transition paradigm*’

This chapter’s focus is the literature pertaining to mature learners and workers and the transitions in work they will likely be required to navigate. The review seeks to provide understanding of elements including approaches to learning, linkages to employment, and considerations regarding the notion of lifelong learning which help establish issues to investigate in the research. The Life Course transition paradigm is discussed with its relevancy for elucidating the position of mature workers which can aid the research process.

3.1 Mature students and Approaches to Learning

Understanding workers’ approach to learning, skills acquisition and impact on people’s capacity to accommodate change is important to understanding the issues faced and likely responses. Recognising individual perspectives can assist delimit the risk of focusing on process in isolation and proceeding to overly simplistic solutions. However, achieving scalability may in practice moderate the degree to which this occurs.

Reconciling the wider needs of workers/learners, employers and policy makers is arguably more difficult in environments where the focus is on delivering technical “know how” and immediacy in application. Such approaches lead to assumptions that problems may be clearly defined with causal links amongst key variables being identifiable and subsequently processes implemented to enable their solution (West, Alheit, Andersen and Merrill, 2013). The problems are much more of a “wicked nature”.

The fracturing of linear learning pathways, the new and diverse ways knowledge is unfolding in lieu of relatively stable or evolutionary change, coupled with percolation of these trends to every aspect of life – familial, social and work - means pressure is constant for the individual to reinvent themselves and learn how to manage and behave. Learning takes on a new role as a biographical necessity (West, Alheit and Anderson, 2007)

underscoring the importance of recognising individual history and biography in approaches to learning.

Selby Smith, Smith and Smith (2007) used case studies with older workers in Australian manufacturing to investigate their approaches to learning. A key feature was the tactical training perspective: less interest in qualifications and more in directly relevant workplace skills with preference for personal, face to face tuition. This militates against expanding workers' perspectives and equipping them to address the emergent workplace, including required capabilities and avenues for relevant learning. Today, options for learning are substantial, including by mode (e.g. on-line, blended) and access (full/part time and domestic/international) while MOOC courses offer means for sampling and/or familiarising with new forms of knowledge. However change is problematic without guidance as to how to effect a learning journey amenable to new concepts of work.

A study of Danish General Practitioners exposed the learning dilemma as not just acquiring specific skills to remain employable, but to deal with increasing knowledge and expectations in the work environment (e.g. from clients) driven by access and information. Power relationships were changed, fuelled by the 'internet of things'. In different settings, for "client" might be substituted, or added, employers, other discipline co-workers, and professional and accrediting bodies. Such phenomena raise issues of learning new competencies with binary outcomes: as a means to reinforce "traditional" identity or to surrender this to a new and emergent version of what is a professional (Olesen, 2013). Mature learners will traverse both ends of the spectrum in terms of what they seek from education. However it is unclear whether they are acquiring the very different mindsets and ways of operating which will prevail in the emerging work environment, and implications for successful interaction.

Work by Scanlon (2008) considered objectives of Australian adults returning to study through a university qualifying course. The group of 35, 9 of whom were mature, comprised early school-leavers and people who were academically unsuccessful at school with difficult/low socio-economic backgrounds. Scanlon's interviews looked at motives from two perspectives: future focused or "in-order-to" and backward or "because-of" - the latter reflecting past experience. The range she argues reveal the way self-authoring draws on interpretations of past experience and views about the future, highlighting the

complexity of this process. Aspects revealed objectives and goals based on employment experience, renegotiating perspectives on learner identity, and fulfilling dreams: from finding new work, being a role model for family and community, and placating parents. She concluded

The ability of individuals to reconstruct themselves may be 'the key competency' ensuring survival in contemporary society. If this is so then future research should focus on how individuals make use of learning as a biographical resource (Hake, 1999, pp.8-87). p30

Similar themes emerged in the UK which showed adult learners have desired “future ‘possible selves’” from their engagement in learning Stevenson and Clegg, (2013, p.17). These are significantly influenced by past experiences and frequently reflect planning over a considerable period (McCune, Hounsell, Christie, Cree, Tett, 2010). They observe the exercise of agency is evidenced in the way mature students engage in projects and articulate goals and aspirations. However they advocate providing opportunities “to rehearse what their future possible selves might look like if they are to achieve their desired futures” (p.28). Importantly they warn of students having educational premises around employment futures and trajectories embodying unseen risk including lack of employment and practical constraints to working from existing family, housing and support networks.

Taking their cue from Wenger’s (1998) notion of learning trajectories which he defines as:

To me, the term trajectory suggests not a path that can be foreseen or charted but a continuous motion - one that has a momentum of its own in addition to a field of influences. It has a coherence through time that connects the past, the present, and the future (p154) as quoted on p.692.

McCune, Hounsell, Christie, Cree, Tett, (2010) contend individuals’ trajectories will have important consequences for learning engagement and be influenced by work experiences including the communities of practice so encountered. There may be rich insights mature students can bring – particularly from related fields to their “new” learning. But there are reasons to be cautious of such perspectives in practice if reference communities are insulated from technological change, globalisation or embracing of new ways of working; or unfamiliar with engaging new members with often different histories and experience.

Dawson (2013) exemplars this in examining how to secure best integration for mature physiotherapy students into their profession noting their distinctiveness from younger novices. Eliciting insights and experience from the learning journey and being able to place them in perspective of unfolding work emerge as key issues from the literature.

Facilitating engagement will require attending to literacy, numeracy, and use of on-line learning processes and infrastructure, recognising the pace of technological change and explosion of knowledge across disciplines. Complementing this will be requirements for explication of support tools, making those accessible, and fostering social cohesion and recognition of learner interests (Gelade, Catts and Gerber, 2003).

Four key dimensions were identified as characteristics of career adaptability in a European study of mid-career, middle level qualified workers (35-45). These included: access to challenging work and related communication skills; knowledge base updating or mastering a new base; learning through work interactions; and being self-directed and self-reflexive (CEDEFOP, 2014). However this intimates significant personal accountability and confidence to navigate a changing landscape and mobilise resources to “sustain their learning through transitions” (p.13).

CEDEFOP (2014) proposes a model of learning with three components inherent in supporting transitions. First, learner identity or ‘learning as becoming’ (Wenger, 2000, 2010) and personal characteristics such as self-belief and career orientation; secondly, learning and skills development including cognitive, emotional, practical and relational or interactions and participation; and finally, complementary structures where learning occurs and which create opportunity including education, funding and access to support.

Considerable learning occurs in career transitions (CEDEFOP, 2014). Being able to move among the dimensions is a valuable capability that, when developed, can constructively underpin the process of managing change. The challenge is designing and executing environments which support this movement and address each dimension. It also requires learners be sufficiently informed or aware to access the transition capability. This presents a more complete encapsulation of the learning process but mature workers may be disadvantaged relative to younger workers who through more job change and exposure have greater experience and mindsets directed to managing a career portfolio.

Cameron (2005) comments that re-engaging successfully addresses the issue of “biographicity” as a competency. This flows from the complexity of the working life journey – no longer linear, uncertain and with complex transition patterns in and out of the workforce over a lifetime (Woodman, Threadgold and Possami-Inesedy, 2015). Following Alheit (2002) a ‘biographical learning approach would see

Interest centre ... not on situative learning acts by isolated individuals, but on learning as the (trans-)formation of experience, knowledge and action structures in the context of people’s life histories and lifeworlds... we speak of ‘biographical learning’, by which we mean not so much a sharply and empirically delineated entity – such as learning processes that are bound up with specific forms, locations or times – but rather a theoretical perspective on education and training that takes as its starting point the life history perspective of the actual learner ...

... through the accumulation and structuring of experience in one’s life history, institutionally and socially specialised fields of experience become integrated, congealing to form a new and particular construct of meaning. This accomplishment termed ‘biographicity’ (Alheit, 2002, p.11)

The learning process is portrayed as a holistic activity experienced over a life with the individual integrating experiences to give meaning and shape to their existence. The implicit nobility of purpose pre-supposes levels of insight and reflection and ultimately knowledge which mature learners may find difficult to know how to assemble, reflect upon and use without assistance (Guile, 2010). Critically, there is an under-recognised risk if people believe the learning-work component’s contribution to biographicity is well structured, stable and repeatable. The danger is being blind-sided and failing in consequence to address more complex scenarios occurring from dynamic economic and technological change. Unless prompted or taught people’s ability to develop and utilise this increasingly important capability may be substantively under-done.

Alheit and Dausien (2013) explicate this as the ability to

... redesign again and again, from scratch, the contours of our life within the specific contexts in which we (have to) spend it, and that we experience these contexts as ‘shapeable’ and designable (p.66)

It becomes a competency by which the individual is able to

...attach modern stocks of knowledge to biographical resources of meaning and with this knowledge to associate oneself afresh.” (Alheit, 1992, p.206).

The stocks of knowledge and the rate at which they emerge is on a scale manifestly greater today; and the costs and risks associated with acquisition have increasingly shifted to the individual. Acquiring this competency is more problematic than is implicit in Alheit (1992) work - as indicated by Gratton and Scott (2017).

The Economist (6 May 2017) quotes predictions the “digital universe” will reach 180 zettabytes in 2025. But more significantly data quality is changing: no longer simply stocks of information in databases but rich, often unstructured flows which using real time analytic tools provide deep information employable to change the ecosphere’s operation. The magnitude and complexity of the world of work is significantly greater now and trending to continue – if not accelerate. Mature learners face a steeper learning curve vis-à-vis recent generations immersed in digital technologies (*The Economist*, 2010) and the accompanying constant emergence of new data, knowledge and being able to participate in the knowledge and information creation process¹².

Requirements to successfully navigate a longer work life are extensive contend Gratton and Scott (2017). Their “100 year life” project states people will need to attend to their *cumulative assets*: *Productive* - individual skill, knowledge and networks; *Vitality* – health and well-being; and *Transformational* - self-knowledge and networks supporting personal and professional transitions. Unless actively built or maintained, capacity for managing the multiple stages of a working life will be difficult. (Financial assets or access are important also for financing investment and overall security).

Aligned to the ‘life course’ paradigm Gratton and Scott (2017) eschew the education-work-retirement model for one where education overlaps with employment and explorations to move into transitions - including self-employment, and mixed paid and unpaid work - before retirement (p.66)

¹² Kennedy et al (2007) contend the digital native generation have been shaped by the ubiquity of digital technologies and its rate of change albeit not necessarily big users of self-publishing and collaboration technologies.

Hake (1999) explored the relationship between learning in times of transition and biographicity - wherein individuals engage in intentional learning to cope with transitions and risks. Three core ideas, he states drawing on Giddens *Modernity and Self-Identity*, 1991, help explain lifelong learning becoming a central theme in society. These include globalisation of access to communication and knowledge - meaning we can learn at any time. Second is the 'detraditionalisation' of social life such that "... distant sources of information may exert more influence upon our behaviour than traditional sources" (p.75). And thirdly, the application of knowledge to social life - the most important characteristic of modern societies. If a well-managed ability, learners will prospectively be more self-directed and effective in addressing changes in the work environment. However he expresses concern at the increasing differentiation in capability and access. He signals older workers as conceivably less practiced and at risk of social exclusion. The connection with or to non-traditional sources of information and knowledge may be a greater challenge for mature individuals over the 'net generations'; while budgetary pressures decrease governments' educational investing for such groups, potentially exacerbating the situation.

Others view recent advocacy for 'lifelong learning' as eroding the benefits of 'lifelong education' (Barros, 2012, Biesta, 2006, Boshier, 1998 (quoted in Barros, 2012 p.13), Bohlinger, Haake, Jørgensosen, Toivianinen and Wallo, 2015, Livingstone and Guile, 2012). The latter it is argued embodied a mandate to build a learning society as a State accountability with supporting linkages to social justice and a civil society. State accountability creates a basis for dialogue across all stakeholders evolving to meet changing needs, and tends to be associated with more formal education delivery.

This is seen as having been supplanted by 'lifelong learning' with a shift to individual accountability, focusing more on competencies and addressed to meeting 'private' interests. Coffield, (1999) points to the transfer of responsibility to remain "employable" ignoring individuals' lack of power to remove structural barriers which impede learning. He reproves the failure to appreciate that social dialogue and relationships are critical to 'learner identities' and learning. He outlines the essential need for investment in complementary inputs - new technology, production and ways of working. Focussing on the individual in isolation disservices all stakeholders.

Without a change in the playing field however, it does explicate why individuals - faced with the responsibility to secure work, may preference formal education offerings in the belief these supply the necessary capabilities to provide valuable employment . By contrast, structuring 'discreet' learning including periodic immersion to keep abreast of change is a more difficult road - combined with substantial search costs and risk.

Toivianinen (2015) advocates for a pragmatist view of workplace learning, positioning new tools and systems, networking and exposure to cross-cultural dimensions as enriching, valuable alternate learning sources:

Concerns about .. the rise of education that serves adaptation to neo-liberal market forces are not without foundation. However contrasting humanist lifelong learning against the learning challenges of the changing world of work does not serve the real learning needs of adults (p.26)

But formal education may be seen as giving greater confidence regarding acceptance. The balancing act is more complex in consequence – including securing roles where workplace learning is possible in the face of discrimination. Learning is required which equips for life and work in a manner which is dynamic and importantly accessible (Szakos, 2014).

A challenge arises for the professions. Increasingly competent professional judgement will rely on the embodied and intuitive know-how based on extended work practices (Bohlinger, Haake, Jørgensosen, Toivianinen and Wallo, 2015). This indicates the value of continuously inculcating effective ways of working particularly as cross-disciplinary problem solving increases. New challenges emerge for the 'novice to expert' models embedded in the professions. Linear progression is less applicable as knowledge and roles are more permeable; mature workers who have imbued these models may require assistance to navigate the change.

Kurantowicz and Nizinska (2013) considering how mature students commencing university stay the course note the frequent lack of inherited social and cultural capital. This raises the bar for individuals seeking to make effective transitions – particularly as requisite work capabilities change. Accountability lies beyond education institutions, including employers, policy makers and professions seeking competent workforces. Without life-long learning being viewed as a societal responsibility many in need of tailored

models of support e.g. mature workers will struggle or fail, with substantial personal and community loss.

3.2 Mature Worker Attitudes - Satisfaction & Student Fit

The literature on the attitudes and behaviours of mature workers is also important. It assists in exploring specific issues that may impact how they consider and are likely to manage changes in work, and what in consequence may be sought from education.

Dealing with entrenched attitudes to mature workers is complicated by their own approaches (BCA, 2003, Davey and Davies, 2006, PwC, 2016). Billett, Dymock, Johnson and Martin (2011) argue notwithstanding a need to rebalance this will require their exercising greater agency in work and learning activities.

There is no agreed definition on older or mature worker with the range from 35-40+ in some studies to 50~55 or 60+ in others¹³. Anti-discrimination legislation potentially has contributed to this lack of clarity. The Age Discrimination (Australia) Act, 2004 makes it an offence to engage in “discrimination on the basis of age-specific characteristics or characteristics that are generally imputed to a person of a particular age” (Australian Human Rights Commission (AHRC), 2017): but these are not defined.

The AHRC reported factors affecting discrimination included structural, social and attitudinal elements. Some may be long standing e.g. social while others such as macro-industry dynamics are outside individual capacity to influence. Elements referenced included limiting preconceptions about age and work life, productivity pursuit and more transient workforces, views regarding resilience, and a “language of optimism and energy that appears to be strongly and selectively associated with the younger worker” (AHRC, 2016, p.5). While overt discrimination is less an issue, evidence of more subtle elements around stereotypes remains and is difficult to counter.

Compounding this are workers’ and managements’ beliefs that career is linear and predictable, including expectations and desires for continual progress and promotion with

¹³ For this research ‘mature’ was defined as 34 years and above to include individuals beyond recent post-school education, with life experiences and a level of maturity.

transition out at age 50 (AHRC, 2016). Belying this was evidence older workers were open to continuing progression, stepping back or plateauing through to reinventing and transitioning to other career paths. The linear model is under significant challenge, but pigeon-holing older workers to set patterns is unhelpful. It is unclear whether government actions e.g. increasing the retirement age have potential to alter perceptions.

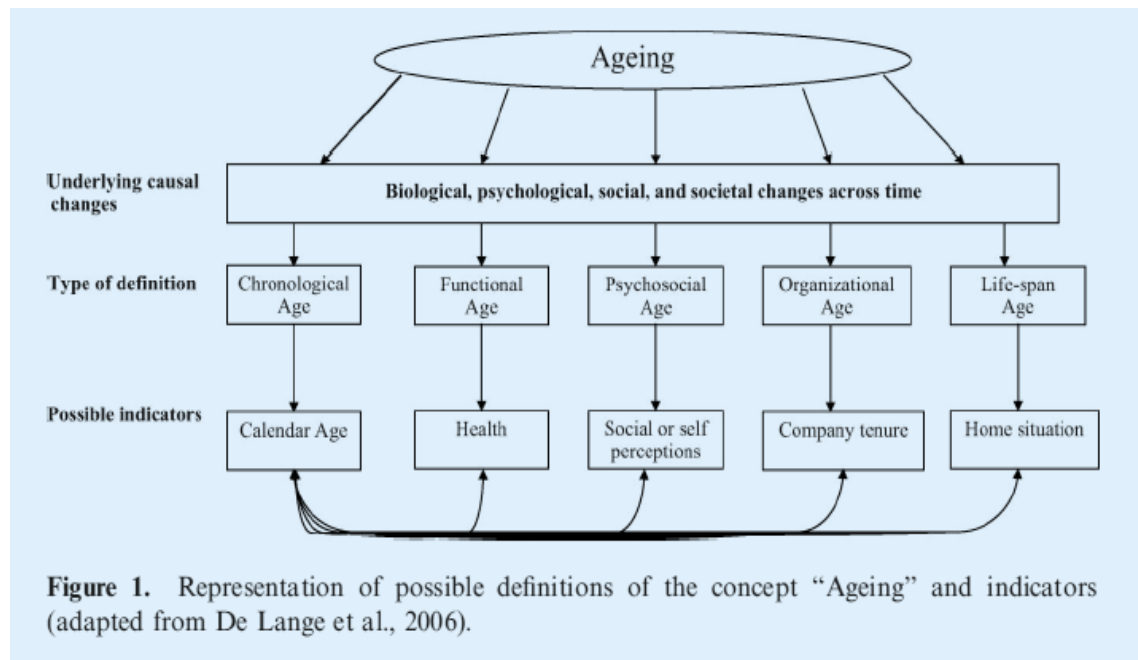
An Irish industry study McCarthy, Heraty, Cross and Cleveland (2014) examined managers' attitudes recognising their influence on employment, opportunities for advancement, education and retention. "Older" worker nomenclature ranged from 28 to 75 years (median of 52) with younger managers skewing to a younger chronological age. Significantly, context was more likely to be influential e.g. career stage, industry, organisational norms and perceptions of what constituted being in a pre-retirement phase. Such studies while narrow in focus – aspects directed at pace of industry change and capability sets would presumably influence perceptions - signal the high variability in issues mature workers must address to secure optimal opportunities to develop and contribute.

Linking to, or associations, with particular generations may influence in worker and employer attitudes and behaviours. McMullin, Comeau and Jovic (2007) note cultural elements (e.g. music) or events (e.g. social upheaval) or movements provide affinities across generations beyond birth cohort, and technology may be similar. Their study, of ICT workers, showed groups generated discourses showing affinity with particular computer technology waves, translating to views about skill, innovation and adaptability which could "exclude older generational groups" (p.313). Evidence of this persisting over time and whether mature groups could master means for inclusion would be valuable. Addressing 'generational' work components and values may assist mature learners/workers in capability acquisition, application and workplace fit.

McCarthy, Heraty, Cross and Cleveland (2014) and Schalk, van Veldhoven, de Lange, De Witte, Kraus, et al. (2010) each cite Stearn's and Doverspike's (1989) analysis which distinguished five distinctive concepts to address the notion of ageing: chronological, functional or performance based, psychosocial, organisational and life-span. A representation (Figure 3) is provided by Schalk, et al. (2010). They note organisational views as to whether employees are a resource to be conserved or an asset depreciating

with age will shape roles assigned and prospects. This links with the AHRC (2015) regarding the influence of language on perceptions of mature workers. It reinforces the importance of how mature individuals portray themselves in work situations.

Figure 5: Concepts of Aging - Schalk et al., 2010



The idea of ‘organisational age’ presumably will be challenged as individuals assume multiple careers and re-orient skill sets, and as previous models of education-work-retirement prove overly simplistic. Brooke and Taylor’s (2005) comparative study of UK and Australian organisations noted despite value emanating from experience and the transmission of expertise, selection for new roles was frequently constrained for older workers – affirming the positioning challenge.

Personal and institutional factors were identified by Meyers, Billett and Kelly (2010) as impacting education take up rates in an exploratory Australian study of 8 workers (45-64) enrolled in accredited training. The concentration was on personal elements - life history, agency or active engagement and individual ways of understanding, knowing and doing. These included familiarity with technology for study, perceptions of self and industry experience, expectations, and readiness to effectively engage. This supports the heterogeneous nature of engagement and motivations and potential weaknesses in

homogenous views and approaches to learning for mature workers. This is reinforced by Crossan, Field, Gallacher and Merrill (2003) observe learning careers frequently have a level of volatility and are complex and multi-directional.

Supporting mature individuals in identifying and navigating institutional and societal factors emerges as essential for worthwhile involvement in education and subsequent work (Meyers, Billett and Kelly, 2010). Davey and Davies (2006) call for “reciprocal adaptation” with all stakeholders having a contribution (p.33). Similarly Walker and Maltby, (2012) note the European Union call for age-integrated approaches where education and work span whole of life, while USA-based SHRM Foundation (2014) advocates for more structured methods for knowledge transfer to support older workers. In Australia, Benson and Brown (2009) note generational diversity requires recognition and accommodation to optimise new workforce composition. De Cieri, Costa, Pettit and Buttigieg (2009) echo this, stressing intelligent job design to effect intergenerational knowledge retention and transfer. Gendron, (2011) reviewing the French situation notes the importance of work environments which address social cohesion and balancing personal, social and emotional competencies to retain mature workers.

Attractive attributes in terms of flexibility, actual skills and willingness to take up challenges (USA study referenced by Billett, Dymock and McIntosh, 2001, p.7) were observed in older workers. However, McNair, Flynn, Owen, Humphreys and Woodfield (2004) recorded an absence of assistance in negotiating new work as an issue amongst U.K. workers - exposing potential limitations to facilitating transitions.

McNair (no date) clusters older workers into three groups: “choosers”, “survivors” and “jugglers” distinguishing differential experiences by qualifications, age and gender regarding positivity to remaining employed. Discerning different clusters can assist develop scalable, cost-effective pathways - providing a level of specificity to identify issues and tailor responses. Higher income and more professional/managerial people work for choice and interest reasons in contrast to those who for financial insecurity and/or lack of skill, have negative reasons for changing or exiting employment (McNair, Flynn, Owen, Humphreys and Woodfield, 2004, Smith, 2011). The former are more adept at remaining employed and managing the educational challenge (Baird, 2009, Dittrich, Büsch and Micheel, 2011).

Baird (2009) interviewed 33 USA corporate workers aged 45+, described as “boomer professionals” employing three distinctive strategies to successfully negotiate work/career transition. These comprised ‘traditionalists’ seeking similar work and drawing on self-esteem to recreate a new traditional job; ‘independents’ striking out on their own and utilising self-efficacy; and ‘re-inventors’ making new roles drawing on a sense of authenticity. Observed also was a small but significant group likely to fall out of work or move to lower status roles with high levels of frustration, inequality and poverty. Given the effort required from workers who by any measure would be considered successful, what is the corollary for those who are less well placed? The ‘boomer professionals’ were attuned to globalisation and economic restructuring and better positioned to understand the need for change.

Anderson (2011) in a small scale USA study of College adult learners observed different requirements for advice, support, and recognition of prior experience relative to younger learners. Key was securing alignment between student values and those of the institution/faculty. This accords with Meyers, Billett and Kelly (2010); indicating requirements for deeper understanding of motivations and specific support to secure optimal engagement of mature cohorts.

Adding complexity are views of a dichotomy in life-long learning between those who are successful and assisted by their educative activity vis-a-vis those who exit before completion or who struggle to find relevance in the workplace. Two such groups emerged in Siivonen (2016) eight year qualitative study of Finnish adult learners. Using narratives, he observed a reinforcement of “meritocratic discourse” (p.8) fostering a belief that good performances in prevailing fixed, linear education offerings will provide success. These favour a view that those willing to learn and able to apply themselves will be ready for life transition. He contends this is self-serving of a neoliberal economic model – raising similar issues as those posed by Robertson (2014).

Perhaps more significantly for this study, the literature exposes a critical risk that models selected for gaining learning are flawed. Chapter 2 indicates knowledge will need to be acquired rapidly, frequently and in variable ways – sometimes formal and deep, at other times on-the-job and increasingly for a specific context. Traditional linear models risk being outmoded and less adept at addressing required new capabilities e.g. creativity,

critical thinking, capacity to work collaboratively and flexibly (Hajkowicz, *et al.*, 2016). The outcome is that mature individual's exercise of agency is increasingly difficult from variable education, inadequate understanding of the momentum of change and implications for work coupled with discriminatory social and enterprise values, and structural impediments.

Siivonen (2016) argues "adult students may be particularly vulnerable in the face of rapid graduation and labour market entrance (that) are being strongly encouraged" (p.3) as they are less likely to be across the fluid and flexible learning discourse than younger people. Merrill and Monteagudo, (2010) note the marginalisation inherent in economic structural factors over cultural and institutional influences. The pre-eminence given the economic imperative creates difficulties for mature individuals (Colfield, 1999). Billett, Dymock, Johnson and Martin (2011) advocate additional effort to develop agentic learning capability believing workplace change will be slow. This optimistic justification is questionable given indicated global trends while mature individuals require insightful context about future work if agentic capacities are to be optimised.

Examining interest in on-going employment Thieme, Brusch and Büsch (2013) surveyed 950 German white collar employees (55-65 years). Approximately half were open to working beyond pension age eligibility and willing to remain in continuous training linked to self-assessed ability to work. Retirement decisions typically have a long lead time reflecting environmental, social and family structures, financial elements, and health influences; access to continuous training helps keep people employable:

... the stronger the culture of life-accompanying learning is set up for the purpose of managing the aging process and not age, the higher the ability as well as the willingness to prolong working life. (p.240)

Interest in continuous learning and participation were observed as high intrinsic motivators joined with "being connected" to the work environment including being able to pass on knowledge and experience. The findings stress value in boost feelings of self-efficacy and valence in support of mature individuals' intrinsic motivation.

3.3 Life Course Transition

In undertaking research that encompasses the changes confronting mature learners, having an approach that facilitates addressing multiple influences linked to time

and place, and longer term patterns of stability and change (George, 2003) was advantageous. The 'Life course' paradigm provides a means for considering age-graded patterns contextualised by social pathways and institutions, development processes and history, (Elder, Johnson and Crosnoe, 2002, Mortimer and Shanahan, 2002). Elder, Johnson and Crosnoe (2002) describe it as a "theoretical orientation" designed to provide a common field of enquiry and a framework for descriptive and explanatory research after Merton, (1968). This section examines its value in exploring life trajectories across multiple stages and changing contexts, and exposing insights and areas for targeted policy.

Increasingly understanding mature individuals and addressing their needs utilises diverse disciplines working at multiple levels: from macro structures and social institutions of society and the economy, to meso level influences involving education systems and employment institutions to the micro experience of individuals (Alwin, 2012, Crosnoe and Benner, 2016, Elder, Johnson and Crosnoe, 2002, Laub, 2016). The paradigm's holistic orientation resonates with the complex factors pertinent to facilitating on-going workforce participation.

Elder, Johnson and Crosnoe (2002, pp.11-13) explicate five inter-related general principles for using a 'life course' approach:

- i. **Life-Span Development** – development and aging are life-long processes.
- ii. **Human Agency** – individuals by choices and actions construct their lives within the constraints of their historic setting and social circumstance.
- iii. **Historical Time and Place** – a person's life course will be embedded and fashioned by the historic era and places in which they are set and experienced over their lifetime.
- iv. **Social Timing** – the implications and development which occur and subsequent outcomes from an individual's transitions, events and behaviour patterns will vary as a result of the time in life at which they take place.
- v. **Linked Lives** – this acknowledges individuals' interdependence and that these networks will filter the manner in which socio-historical influences impact.

The life course is

... primarily viewed as an age-graded sequence of socially defined roles and events that are enacted over historical time and place. This view comes with the understanding that changes in the life course of individuals have consequences for development and that historical change may alter the life course and developmental trajectories by recasting established pathways. (pp.15-16)

The paradigm provides a framework for situating the processes by which social change influences and alters people's developmental paths – this is apposite given the research is directed at understanding how immersion in education is influencing and possibly altering mature learners' paths to work.

Macmillan and Eliason (2003) in examining application of 'life course' emphasise the criticality of 'trajectories' and 'transitions'. Trajectories are referenced as long-term involvement in, or connection to, social institutions and corresponding roles – effectively a notion of career. There are accompanying definable sequences, duration and order. Transition denotes specific events resulting in the individual entering or exiting institutional situations and concomitant roles. Examining the interplay allows for discernment of the "totality of the life course" (p.531) enabling insights into degrees of stability or change in an individual life. The paradigm's application can supply a level of dynamism. While many trajectories and transitions will occur in an individual's life, the research focus here is directed to education engagement with mature individuals in a specific context considering elements contributing to workplace change – its impact and their approach.

Dannefer (2002) in looking to 'life course' application as a construct notes the value in scrutinising life pattern stability and factors which disrupt these, and the extent to which future outcomes may be predicted by tracing these patterns. He emphasises a fracturing of the "one life one career" imperative or "three boxes of life" model namely education-work-retirement. The past's relatively orderly and aged graded role structures are being recast under changing economic, social and technological elements. The propensity for this to be constantly changing Lynch (2008) contends flags the risk of overly optimistic expectations from lifelong learning¹⁴ although estimating the degree would

¹⁴ These models may be more representative in western developed nations limiting application globally.

arguably require longitudinal studies and regard to different sectors, organisational types and occupations at a minimum.

'Life course' research helps construct the complex picture facing mature learners. George (2003) states it offers a series of principles to enrich understanding of "...long terms patterns of change and stability, the effects of macro-level social, cultural and historical contexts; and/or the significance of linked lives" (p.673) and to confront critical issues in social and behavioural research with methods which are conceptually and empirically grounded.

Heinz (2002) highlights very different career paths emerging from the "temporal de-standardisation of work sequences and the individualization of employment pathways" (p.200). He states the shape of the work 'life course' has become complex, moving from a relatively simple model of changing jobs and periods in employment to one which emerges from market negotiations entailing influences of work accompanied by more temporal periods of employment, qualification and biography. Linked to this are changes to the way occupations are unfolding and organisations employment practices. Previously, relatively stable social and economic structures meant change was more manageable – with greater predictability regarding employment. Stability of these patterns is being undermined by radical, wide-spread technology-induced disruption, related organisational responses and social change. Conceptualisation of the multiple factors on play is difficult - including seeking to apply life course models Heinz (2002).

O'Rand and Bostic (2016) observe lives are lived across multiple domains at any one time resulting in simultaneous experiences whether from micro factors e.g. family, health or macro factors e.g. education, work which are interdependent and mutually influential. This is leading to 'life course' being less immutable or ordered but serving as a

... dynamic and cumulative manifold phenomenon that develops with time within diverse contexts of social change as individuals must respond to their material and cultural conditions in the conduct of their lives (p.717).

Biasin (2013) echoes this with an exemplar of supporting Italian workers displaced as large scale factories moved production off-shore. She comments

It wasn't just a matter of interiorizing the uncertainty of job loss, or of accepting the flexibility of the labor market as the new cornerstone on which to solidify dimensions of personal or professional identity, it was more a matter of facing the work transition, living it as a transformative passage of identity, learning to choose the opportunities that transition offered, mitigating aspects of loss and suffering it entailed. (p.284)

Executed well this has the capacity to confer a deeper appreciation of change, facilitate addressing the future and introduce adjustments to thinking and living which allow people to competently manage transitions. The critical point is to access appropriate resources and tools (Coffield, 1999). Large scale restructures make government assistance more feasible or likely. The problems relate to employees in modest entities who are largely reliant on own resources to manage transitions, and increasingly careers (trajectories), in complex, rapidly changing environments.

Giving further voice to this, Hallqvist and Hydén (2012) in interviews with 23 mid-life retrenched Swedish white collar workers used a pragmatic model to consider how people treated job loss. They argue that faced with globalisation and related employment uncertainty workers need to engage in life-long learning and be able to manage their related transitions more effectively, including work flexibility and mobility. They concluded the process of moving to re-employment could be regarded as a learning process in itself. People able to successfully move to new employment generated worthwhile capabilities such as resiliency. For some, re-making professional identity through engaging in specific new knowledge acquisition was particularly valuable for building confidence and self-esteem (Hardiman, 2014).

Accompanying this process, Hallqvist and Hydén (2012) state the “praxis of reflexivity seems to be crucial” (p.11) as it underpins the navigation of transitions. However, responsiveness is variable: some embrace it, others are disconcerted and a group give no consideration. Acquiring the skill to build resiliency is a substantial undertaking. Equally demanding is recognising and acquiring the knowledge to remake identity to secure employment. If work doesn’t eventuate resilience is likely to be undermined. Expecting individuals to undertake this solus is arguably an uncertain even precarious endeavour recognising the high levels of monetary, social, intellectual and personal investment. The circumstances leading to such needs are increasing; raising the

importance of facilitating successful transitions accompanied by building capabilities such in agency and reflexivity.

Edwards, Ranson and Strain (2002) favour reflexivity over simple adaptation. Their contention is that reflection brings deeper, more holistic engagement, leading to enhanced resilience and ability to cope with change relative to acquiring knowledge to deal with a specific situation. Learning is defined more widely than institutional or formal learning participation - notwithstanding many education institutions seek to foster reflexivity. But for some individuals a narrower or focussed view may appear sufficient or be all that can be absorbed.

McNair's (2008) report on career and work guidance programs with 1,100 UK 50-85 year old workers showed employers and employees ascribed highest value to "short and focused (training) on the relatively immediate needs of the job and the business" (p.7). This narrow orientation raises concerns re the magnitude of global change to be comprehended and addressed. Tedder and Biesta (2007) comment formal education can provide space for reflection and identifying opportunities that may exceed the value of the knowledge and skill acquired per se. Explicit recognition and active addressing of these makes the overall transition experience more valuable and smooths longer term management of the changing work environment.

However Macmillan and Eliason (2003) argue the emphasis on agency in 'life course' highlights the complexity of transition decisions. It may see orientations to the past, present and future including the impact of past experiences. Merrill (2014) noted attendance at university can be a "powerful biographical experience" (p.1869) building coping strategies and exercising resilience, agency and determination. The literature in summary points to individuals making evaluations based on expectations, experiences and the outcomes of transitions. A future-oriented employment view may support actions to undertake education and the effectiveness of subsequent transitions. Poor or deleterious encounters may do the opposite. Holistic and heterogeneous approaches able to accommodate individual need emerge as necessary over simple prescriptions such as formal vs vocationally oriented education.

Hallqvist and Hydén (2012) observed similarly that agency is bounded by past and present socio-cultural conditions. It emerges through the process of problem solving and learning and may be supported via stimulative learning structures. But leaves unresolved how people might become conscious and deliberate in their approach to equip themselves sufficiently to make their learning address changing employment contexts. The inherent complexity leads Sultana (2011, 2013) to advocate formal mechanisms e.g. government sponsored information and advice to facilitate individuals' decisions about needs and options, together with support.

Billett, Dymock, Johnson and Martin (2011) delineate a lack of alignment between employers needs for skills and attitudes to employing older workers (44+ years). While skill development is essential, without agentic learning practices and workplace participation by workers themselves, change is likely to be slow. This is extended by Field and Lynch (2015) reiterating education is not experienced in isolation. While it may add to people's sense of affirmation and capabilities there is a risk prospective benefits are inflated by policy makers and educators papering over deep seated inequalities and exclusion processes. Further, Bowman, McGann, Kimberley and Biggs (2016) argue dominance of a "work first" ethos (p.467) and characterisation of older workers' employability as 'dated' combined with pervasive age prejudice make securing work much more difficult.

The problematical environment is seen in Isopahkala-Bouret (2013) interviews of 14 newly graduated Finnish masters' degree adults in their 50s. Positive outcomes in terms of economics, skills gained, social capital and self-esteem and for some in ability to negotiate against age-stereotyping were reported. But relative to younger graduates the lift in professional status appeared less; with some recounting intensified workplace tensions, inter-personal conflicts and competition for status and power. Even advantages of pre-existing economic and educational status may be insufficient to provide on-going access to employment.

Isopahkala-Bouret (2013) questions whether education investment decision carries a calculation by individuals regarding prospective benefits. This might be restated to question whether mature learners undertake, or are prompted to undertake, sufficient investigation to understand the cost and benefit of transitions. Rees (2013) expresses reservations re employer-driven levels of compulsion in adult learning to retain work in

terms of who benefits? Constraints regarding the value derived may emerge from lack of resources, and social and family circumstances. The literature shows explicit evaluation of these elements is not evidenced and is a potentially considerable problem in optimal outcomes particularly if benefits are over-hyped to meet economically driven needs (Rees, 2013, Field and Lynch, 2015).

For learners of lower socio-economic status the picture is more involved. Reay (2003) interviewed 12 UK women aged 29-45 from such backgrounds undertaking “Access”¹⁵ studies. Their stated rationale for engagement was less goal oriented and more intrinsic – including giving back to society. Numbers transitioning to higher education were very low notwithstanding student commitment and Access course success – cited reasons were lack of time, juggling work and family responsibilities and financial pressures. Reay (2003) expresses concern the “costs and risks of ‘reinventing’ compete with and at times overwhelm the advantages” (p.314). This literature indicates issues for equipping people to engage in education to address job loss. This is exacerbated where they are operating within narrowly circumscribed spaces of choice – a likely aspect when information is difficult to access.

The ‘life course’ paradigm assists elaborate influences and helps context the mature learners’ journey. This is essential if appropriate activities are to be implemented to assist them. But ultimately as the literature shows, value judgements will be essential to assess the cost-benefit incurred and to explicate whether the learning journey goes beyond meeting economic needs – individuals and stakeholders.

3.4 Lifelong Learning

Considerations of lifelong learning are prevalent in policy linked commentary addressing disruption to work (CEDA, 2015, CEDEFOP, 2014, OECD, 2015, PwC, 2016, WEF, 2016). It takes on aspects of a panacea however. While the term lifelong learning is in common parlance, the meaning assigned is used variously to support approaches

¹⁵ Access to Higher Education Diploma - qualification preparing people without traditional qualifications for university. Quality Assurance Agency for Higher Education, UK.
<https://www.accesstohe.ac.uk/Pages/Default.aspx>

from altruistic notions of self-fulfilment through to more pragmatic ones of meeting economic need. Tight (1998, p.254) quotes Bagnall, (1990) as designating three ideas: the process of equipping people for managing their adult lives, the time perspective over which education is undertaken and spread, and the cumulative view of life experience. He states it has become linked in a trinity to the learning organisation and the learning society which embrace survival of individual, organisation and society in consequence of on-going learning and establishing mechanisms for these to occur.

The work by Schön (1973) did much to explicate organisations' needs to embrace learning to respond to inherent change and instability. Learning provides means for guiding and influencing change and, by permeating the organisation, facilitating action. Learning systems in consequence needed to evolve to effect continuing transformation.

A learning system... must be one in which dynamic conservatism operates at such a level and in such a way as to permit change of state without intolerable threat to the essential functions the system fulfils for the self. Our systems need to maintain their identity, and their ability to support the self-identity of those who belong to them, but they must at the same time be capable of transforming themselves. (p.57 as quoted in Smith, 2011)

Equipping people and organisations is inherently more problematic when organisations are constantly evolving and roles are disappearing (Bhalla, Dyrchs and Strack, 2017). Schön (1973) noted the firm as representative of the whole functional system would be the source of transformation and diffusion (Smith, 2011) but this was in an era of greater stability and longevity. The way things are effected is based in driving systems but increasingly, previous technological limitations are being eroded. (Myers, 2016). Models for management and information dissemination are being radically changed. Work groups will form and dissipate to meet new challenges raising issues for the source of leadership and its ability to direct change. Ahlbäck, Fahrbach, Murarka and Salo (2017) and Roghé, Toma, Scholz, Schudey and Koike (2017) point to organisations having distributed leadership, using agile approaches to problem solving and using highly varied labour sourcing strategies with significant role mobility. The transformation process is arguably less evolutionary and more revolutionary.

'Lifelong learning' in society emerged in the 1990s under national and global agendas for growth and sustainable development including UNESCO (1996), the OECD

(1996) and European Lifelong Learning Initiative (ELLI) (Hake, 1999). However Hake (1999) citing impacts observed by Giddens (1994) provides further insight to its emergence. These include the ubiquity and availability of knowledge facilitated by new technologies and communication forms without borders; the breaking down of tradition under the shrinking of distance or interconnectedness leading to external sources being more influential in society's conduct; and, society's transformation under the impetus of the application of knowledge – what he states Giddens (1994) terms an all-prevailing “institutionalization of reflexivity”¹⁶.

The latter suggests society is increasingly self-aware, reflective and therefore reflexive and this self-enquiry leads to constant adaptation - with benefits accruing. If this is occurring, and is well informed, learning may assist managing, or adapting to, a changing employment landscape. But this makes significant assumptions about who is doing the self-reflection, their level of capability, the information used and available and whether they believe, or are, in sufficient control to undertake learning activity in response (Lewis, 2004).

Reay, Ball and David (2002) observe that ‘reflexive modernisation’ is placing pressures on individuals as they seek to address modern life with the ego put at the centre. This almost necessary self-absorption means other aspects of life may be short changed with resultant guilt and anxiety notwithstanding benefits from opportunities to be involved in new endeavours. But securing new work is potentially difficult as evidenced in the literature potentially exacerbating pressures especially for those less versed in managing the changed workplaces.

Self-reflection regarding the work outlook is likely to be more prevalent amongst the well-educated or in cerebral employment which facilitates and/or prompts this. Engagement assumes information percolates through all employment levels and groups, which given the indicated uncertainty is debateable. Growing uncertainty around work underpins the need for lifelong learning, but it is neither a given or costless exercise

¹⁶ No page number supplied

(Hooley, 2014) while benefits may be (increasingly) transient if geared to immediate application.

Senge (1990, 2006) via his notion of the learning organisation extended Schön's work articulating five core disciplines to assist organisation's successfully problem solve. These included securing a shared vision, engaging in rich cross team/cultural dialogue to bring team learning and thinking to problem solving and having robust mental models backed by personal discipline, and systems thinking ('the fifth discipline') - the means for coalescing the process. He defined the learning organisation as a "group of people who are continually enhancing their capability to create their reality" (2006, p.10). However, if sectors and organisations are being disrupted, opportunity to continually enhance capability may be difficult; especially for mature workers where younger people are preferred for learning investment.

He says little about individuals' capacity or routes to respond apart from seeking to be "members" of an ecology of learning which may or may not offer sustenance, commenting

Most people are pretty clear that we're at the very beginning of much bigger changes; and the problems that are happening, whether they're purely economic, natural disasters or social instabilities ... (2008, p.2)

and this awareness would create or assist in maintaining enthusiasm for learning and change. However, the very high likelihood that membership – read employment - of organisations will be transient or radically changing raises difficulties for mature workers in equipping themselves well for such scenarios. Even for the organisation and management, understanding how to best endow employees is a challenge for which they may be unprepared or inadequately versed (Bhalla, Dyrchs, Strack, 2017).

This heightens the importance of accessible models for constant learning - independent of employers. It supports notions of a "learning ecology" which here comprises a "collection of overlapping communities of interest, cross-pollinating with each other, constantly evolving, and largely self-organizing" (Brown, 2000, p.18). Richardson, (2002) notes success depends upon having a unifying model of instructional theory to drive the learning environment: elements will include learner's self-navigation activity, experience and practice focus, guided navigation and delivery of content. However

creating such communities – even virtually – requires effort, insight and resources that may be unavailable for individuals to create or access without the support of coalitions of education institutions, employing entities and professional structures. Evidence of these is illusive raising the challenge for individuals seeking to navigate learning.

Further indication of the depth of these issues is reflected by Fillion, Koffi, and Ekionea (2015) outlining pressures on organisations, who find current ways of operating fail to meet the requisites for survival. In consequence there becomes a need to “modify the rules of the game and encourage new behaviours” (p.14) for effective change. They include attention to ‘knowledge management’ as a platform for being a successful learning organisation incorporating knowledge generation, mobilisation and application.

Complementing this will be concerted attention to organisational behaviour. All the elements of leadership, communication, addressing of conflict and power relationships, teamwork, motivation and emotional drivers need holistic assessment, framing and support to underpin the learning organisation. Bagnall (2007) argues the notion of lifelong learning presupposes a particular ethos which is directed to an “aretaic ethic with a teleology of optimising universal human flourishing through learning” (p.61). Virtues include commitments such as constructive engagement, cultural understanding, and collective and individual autonomy. However, common usage demonstrates an essentially pragmatic construction emphasising individual learning responsibility despite calls for institutions to create cultures supportive of continuous learning and adaptation to change (Rowley and Gibbs, 2008). Notwithstanding individuals assume accountability given the momentous changes outlined, navigating what learning, its frequency and sourcing is arduous, even before learning commences.

Field (2009) a commissioner in the Inquiry into the Future for Lifelong Learning (UK) anticipates learning for work will remain dominant, but observes education brings wider benefits of greater control over lives. However, in reflecting an exploratory study of older adults’ transitions, he argues against simplistic presumptions that people will have an affinity with lifelong learning notions. This includes understanding generational identities and their memberships by different cohorts (2013) in designing education offerings and likely take-up. Lister (2003) notes critiques that lifelong learning leads to a “vocationalist focus” with a competence emphasis that jeopardises education’s emancipatory role.

Ecclestone (2000) is equally critical of the lifelong learning 'empowering' rhetoric, contending it fosters a more "pragmatic, instrumental and compliant attitude" (p.77) which is confining and deleterious to positioning people to manage change. She notes a tendency to moral authoritarianism which marginalises those who do not participate coupled with an assessment orientation which may devalue risk-taking, innovation and creativity except for an elite group.

A major issue with lifelong learning is that it assumes a *Catch 22* quality: engagement is necessary to secure employment but failing to re-engage means falling behind as old roles disappear and new ones emerge. This is reinforced by the emphasis on individual responsibility. There needs to be understanding as to what engagement will likely deliver - beyond the immediate need of employers for a pliable workforce. The costs for mature learners are high – personal, social and financial, with a limited time to recoup these.

Broek and Hake (2012) identify barriers to participation in learning from institutional, situational and dispositional factors. Addressing these via practical policy frameworks includes ensuring flexibility in provision of higher education programs, financial support and facilitating articulation between workforce institutions and higher education. Tuijnman and Boström (2002) comment

Market failures in lifelong learning can result from a lack of information about supply and demand elasticities, the absence of data on costs and benefits and the inability to assess and certify the effects of learning projects ... independent and unconstrained by the traditional qualification frameworks. (p.106).

Issues arise for multiple stakeholders in consequence.

Fillion, Koffi and Ekionea (2015) reference Schon (1983 – quoted in Senge, 1990, p.258) that to be an effective professional, a fundamental principle of practice is experimentation in a 'virtual world'. They note Senge (1990) raises requirements for team membership further – requiring attention to dialogue and having 'fields of practice to develop and hone an effective way of working and develop collective learning abilities' (p.83). If individuals cannot access places for experimentation and learning in the organisational environment difficulties will ensue in successful navigation: whether to

understand issues, be a part of solutions or to develop skills to participate effectively. This dilemma needs recognition including creation of alternate paths when organisational participation is difficult. Small firms may be under-resourced and larger organisations constrained to select only some employees. Substitute arrangements could include placements, real world case studies and CPD offerings. Structured return to learning or facilitated lifelong learning may assist and assumes extra importance in a world of disruption (Christensen, 2015, Christensen, Raynor and McDonald 2015).

3.5 Summary

The literature review and my professional practice manifest that workers will need learning engagement on an amplified level - relative to previous generations - to secure and sustain employment given an unpredictable global outlook and increasing disruption to work (Christensen, Raynor, and McDonald, 2015, Manyika, Chui, Miremadi, Bughin, George, Wilmott and Dewhurst, 2017). Exploring views of mature learners can complement work which has emphasised access and completion of educational endeavours.

The 'Life course' paradigm assists in integrating issues of discontinuous careers and greater contingency as notions of education-work-retirement are destabilised. Under the fracturing of the education-work-retirement paradigm, roles are exposed to constant change with unpredictable work patterns. The literature exposes the dilemma of support for lifelong learning but with accountability variably shifting to the individual. Investment costs to retain currency are significant whether time, resources and social, personal and professional disturbance. Determining what learning and its likely longevity or scope for application appears as increasingly important issues.

Mature workers have a heightened challenge given the compressed time frame to make investments in learning and re-positioning; experiences of and familiarity with more stable and linear models of education-work-retirement; and prejudices re capability and/or difficulties in accessing roles and support to make change.

Awareness of the uncertain work environment and informed engagement in learning may assist with work transitions, building the competency of 'biographicity' - creating meaning and knowledge; and ideally enhancing resilience in synchrony. However concerted support mechanisms would appear essential to effect this and there is still significant uncertainty indicated regarding employment and in what structures and formats.

Ageing populaces, and governments and individuals favour extension of mature workers' employment. Much literature is directed to macro level issues and consequences. Insights for stakeholders - employers, educators and professions is essential given technology and globalisation forces' impact on workforce trends. Coal face exploration can expose some of the rationale mature learners employ, how they view themselves, their motivations and objectives and surface perspectives in support of their learning, agency and identity to address the transitions.

CHAPTER 4

RESEARCH APPROACH

Chapter 4 provides the rationale for selecting the research approach designed to answer the key questions. It shows the link to the literature and issues considered in selecting the methodology. Attention is given to explicating the design and the process employed in its execution, including the ethical approach. The setting for the research is outlined and the processes employed in data collection and analysis are presented.

4.1 Approach

Broadly, this thesis sets out to address two primary questions:

- **Is the manner in which mature learners engage and view the learning process adequately equipping them with the mindsets and skills they require to succeed in a rapidly changing world of work?** The objective being to elicit an understanding of the transition process and the importance assigned to, and expectations of, formal learning by this growing cohort of the higher education student population.
- **How is this engagement impacted by mature students' motivations, sense of self and how in consequence do they view their agency and ability to navigate the world of work?**

Allied is consideration as to whether these particular transitions raise distinctive issues for mature students and what interventions or practices are regarded as useful or helpful from their education institution.

The literature review documented major sectoral disruption with accompanying concerns as to whether mature individuals undertaking study - in the belief well regarded roles and sustainable employment will ensue - are aware of potential changes. The key questions are informed by the 'life course' paradigm (Ecclestone, Biesta and Hughes, 2010) with its regard for biographicity and agency, and how important transitions occur across the lifecycle via education and work.

In determining a research approach the aim was to use an ontology which would give a view on what reality is pertinent to the research area - how knowledge is viewed and an epistemology that would reflect the way that knowledge is understood to address the problems being investigated. A positivist orientation where reality is assumed to be observable, stable and measurable was rejected given the absence of well accepted understandings or concepts amenable to formulating hypotheses, or to testing or evaluation. (Merriam and Tisdell, 2015).

At this juncture, quantitative research was unlikely to be effective given it typically relies on methods having hypotheses to test, and statistical data to interrogate and interpret, which can inform the research design prior to the study commencing. The intention being to control variability, provide clarity in what will be seen as significant or meaningful, and to underpin statistical methods utilised in terms of validity and reliability. A quantitative approach addresses the facts or cause of social phenomena, however these were quite nebulous – together with the absence of representative data sets. The complexity of the issues and the level of dynamism impacting modern workforces detracted from employing a positivist approach at an early stage. The aim was to investigate out and expose students' views and not impose a priori concepts and measures.

A qualitative approach was selected as reflective of the nature and setting for the study. The ontology adopted uses a Constructivist view. The rationale being individuals in the study are creating understandings about their learning immersion and future work, and professional involvement, based upon their experiences and beliefs - including integrating new ideas and experiences to which they are exposed. (Kosnik, Menna, Dharamshi and Beck, 2018). A constructivist application accords there is no single reality which can be measured or known; and this reflects the uncertainty of the realities and meanings, and their likely multiplicity, that mature students may be attaching to their engagement.

An interpretive epistemology was used to determine how those realities might be understood or interpreted to discover the underlying meaning assigned to these particular life events by the students. Interpretation was facilitated by having regard to biography

and life history elements in the qualitative interviews and focus groups undertaken. Narratives were not specifically examined using psychological, linguistic or biographical approaches given time frames, and participant access.

The exploratory nature supported taking an open qualitative research approach. In seeking a discovery orientated schema the value of Constructivism according to Creswell (2013) as discussed in Merriam and Tisdell, (2015) is that it provides a worldview where individuals are seeking to understand the world in which they live and work. They develop subjective meanings of their experiences which are both multiple and varied, and frequently negotiated socially and historically while incorporating prevailing cultures and the era in which they are set. This was apposite given the objective was to provide a base to investigate ideas and generate insights – for instance into expectations about work and emerging capacities. This did not generate sufficient objective data to test propositions - negating a mixed methods approach.

The interpretivist perspective (Gray, 2004) facilitated recognition of the individual's role and differences between humans as social actors (Saunders, Lewis and Thornhill, 2007). Specifically, the way mature learners view or convey their situation and by elucidating this to provide insights and recommendations for better responding to their needs. It requires the researcher to enter into an empathic relationship to secure insight. The interpretivist stance gives an emphasis on “the social world as culturally derived and historically situated” (Blaxter, Hughes and Tight, 2010, p.1442) and links to use of the 'life course' paradigm (Ecclestone, Biesta and Hughes, 2010).

The 'life course' paradigm informed deliberation about how individuals address themselves to events and transitions over time. The paradigm is descriptive and does not provide a theory with propositions for rigorous testing or distinctive outcomes able to be examined. Moreover, the literature on life course shows considerable evolution. Dannefer (2002) points to the fracturing of the education-work-retirement model, Heinz (2002) draws out implications for individualisation of the employment pathway and O'Rand and Bostic (2016) raise the multiplicity of factors simultaneously affecting the education and work experience at micro and macro levels. These insights favoured the research's exploratory

nature through giving context to the questions being addressed.

An important element is the intersection of social context and personal biography; and what George (2003) refers to as the 'life course' paradigm's attentiveness to macro-micro linkages, notably from the immediate social environment to broad social and historic contexts (p.672). The qualitative approach employed enabled use of ideas from 'life course' to explore the complex issues facing mature workers.

The time frame for research conduct was limited due to issues of securing mature student access; in consequence a semi-structured or guided approach was employed to capture students' views¹⁷. An objective was to elicit responses that could raise ideas, concepts or perspectives for stakeholders (including education entities and professional associations) to build upon. Assembling a body of responses to a number of themes suggested by the literature review and 'life course' paradigm was designed to facilitate such outcomes.

The research approach as enacted recognises that the social world for the study is not independent of the researcher and will bring risks of bias and influence. Mitigating actions included sharing the approach with faculty and supervisor, and reflecting upon the process used – both in situ with students and in subsequent analysis. Knowledge generated was arrived at by an active and contextualised process of construction. The approach explored questions more broadly or deeply with some students based on their responsiveness and because of aspects highlighted in work and/or learning histories (Barbour, 2008). For example where an individual disclosed leaving education early because of family circumstances more time was often expended on apprehending the process for arriving at their current studies - understanding motivation was assisted in consequence. Sensitivity was required in probing issues and progressing discussion to allow nuances in the process for assembling and analysing data before arrival at key themes.

¹⁷ The entity where the research was conducted was in prospect of significant structural changes and it was possible different priorities or faculty may delimit access to mature students.

Given the exploratory nature, the study is predisposed to be value laden and influenced by location and the selection of the investigation process. Issues included:

- Students from one private college with its particular culture and teaching philosophy. Potentially these students may have been reticent of mainstream education institutions for reasons associated with being non-traditional students e.g. age, class, gender, ethnicity, lack confidence or in meeting entry criteria. Attitudes, priorities and actions in consequence will have implications for the extent to which findings are generalisable to other institutions. The study sought to be sensitive to these with a concentration directed at surfacing such issues rather than explicating them.
- A limitation to three disciplines – social work, psychology and counselling - biases towards the “helping” professions which may attract individuals with particular world views. The study was unable to address this specifically although it did touch aspects when considering motivation.
- Interviews were facilitated by advertising the participation request through student sites. This risks the researcher being seen as a part of the College, leading to a reticence to offer criticisms or to share insights. Active efforts to provide a comfortable environment and to give assurances regarding the integrity with which information would be handled were key planks of the research process in practice. The number of contributors and their forthright engagement indicated a favourable disposition.

The application of the approach discussed in Section 4.3 provides further exposition of how the process sought to be sensitive to the researcher’s lens on issues.

The research, whilst not having explicit hypotheses to test, was informed from my professional practice and the literature review with pre-conceptions: specifically that mature workers are under-prepared for the unfolding work environment and may have misplaced expectations as to future work. The degree to which those conceptions were able to be affirmed or over-turned based on consideration of the data generated was an objective. The data produced were used to identify and analyse the key factors that

emerged including issues of motivation, identity and the transition journey. This was seen as a better fit for pursuing the likely, multiple reasons for mature students' views on the 'education-work-retire' lockstep archetype.

The reviewed literature - where it addresses mature cohorts - shows a propensity for inductive approaches to explicate the issues and experiences they encounter. These extended from discrimination, to issues of identity and desires to have their experiences valued and recognised, and to maintaining currency and connection with the working world as jobs disappear or change in terms of the skills required. Many studies were qualitative and notable for the emphasis on the meanings individuals attached to their transitions. Accompanying this was an understanding that while generalisation will be necessarily constrained there are rich insights which make for pragmatic recommendations to be investigated and tested in addressing issues.¹⁸

4.2 Research Design

A qualitative approach provided the means to uncover the nature of mature individuals' experiences with the phenomena of work and learning given the extension of the knowledge economy and disruptive technological change. It facilitated gaining fresh insights and sharing some of the "intricate details of phenomena that are difficult to convey with quantitative methods" (Strauss and Corbin, 1990, p.19).

Key attributes ascribed to qualitative research by Denzin and Lincoln, 2011 (source Harrison, Birks, Franklin and Mills, 2017) are reducing use of positivist or post-positivist perspectives; accepting postmodern sensibilities; capturing individual viewpoints; investigating everyday life restrictions; and gaining rich descriptions. This was effected by:

- Providing a means to explore a key problem area without the requirement

¹⁸ Instances include Keating (2010) study of one factory's displaced textile workers about the merit of supporting critical learning to assist people make work transitions; and Brooke and Taylor (2005) perspectives on how age-related assumptions can impede optimal employment of individuals in transforming organisations.

to have developed explicit hypotheses and deep data sources. This was critical given the absence of pools of data being collected (or available) on the viewpoints of mature students nor did the literature indicate sufficient research to take propositions for hypothesis building or testing.

- Amenability to obtaining the undiluted words of people central to the issue. Securing mature learners' perspectives is essential to understanding how to develop responses. A quantitative approach would have risked eliciting narrow and hence, less powerful/informative insights.
- Allowing relevant windows into everyday lives and experiences and the way they conduct and consider their learning. The research's structure gave individuals' opportunities to share experiences.
- Providing flexibility to explore issues including revisiting issues and perspectives and to change tact to investigate further. This assisted adducing a breadth and depth of insights. Qualitative models create opportunities in the research process for varied and rich contributions to be made which is attractive in investigating new areas.

The rationale for exploratory research lies in the value to be obtained from clarifying conception of the problem to

... understand what is happening; to seek new insights; to ask questions and to assess phenomena in a new light (Robson, 2002 p.59 as quoted in Saunders, 2007 p.133))

4.3 Research Methodology

The study utilised focus groups and interviews with mature students, augmented by interviews with two discipline relevant, professional associations. Mature students were defined as 34 years and older. This delineated students who were well distanced from post-school education and/or work and with life history including job-seeking or career change and who face impacts from a rapidly changing world of work.

The literature and 'life course' paradigm suggest the decision to engage in, and the expectations, of the learning journey for mature individuals are complex and influenced by

personal backgrounds, values and motivations, and education and work experiences. As such the objective was to explore ideas, context and variables with mature students to address the research questions and formulate knowledge including amenability to future research. The research sought to substantiate the existence and broad dimensions of the issues raised by the key questions.

Some characteristics from case study research guided the process. The work addresses a contemporary phenomenon within a real world context (Yin, 2014) whilst accommodating a situation where boundaries between phenomenon and context are not clearly discernible (Merriam, 2009) concomitant with the inherent complexity of the issues (Harrison Birks, Franklin and Mills, 2017). In proceeding a focus was given to exploring, seeking to understand, and ascertaining the meaning of, experiences from the mature students' perspectives. This was supported by employing some breadth in the methods and interpretative practices: specifically observations, focus groups, interviews and analysis of the participants' dialogue (Merriam, 2009) to garner a deeper picture.

Attributes present in case study research and relevant here include the:

- Accommodation of a situation which will likely have more variables of interest than data points. The research, into the issues behind mature individuals' transition to learning, was contexted in the "how", "what" and "why" of a specific contemporary phenomenon namely the shift to a knowledge economy and the accompanying upheavals to employment as sectors are disrupted by technology and globalisation.
- Facilitation of a qualitative approach giving pre-eminence to participants' voices through focus group discussion and individual interviews to explore issues. It also accommodates views from professional associations.
- Allowance for issues to occur or unfold over which the researcher has no control and for boundaries between phenomenon and context to be unclear.
- Scope for being informed by and "benefit(ing) from the prior development of theoretical propositions to guide the data collection and analysis" (Yin, 2014 p.17).

The engagement with a substantial number of mature students sought to lay foundations

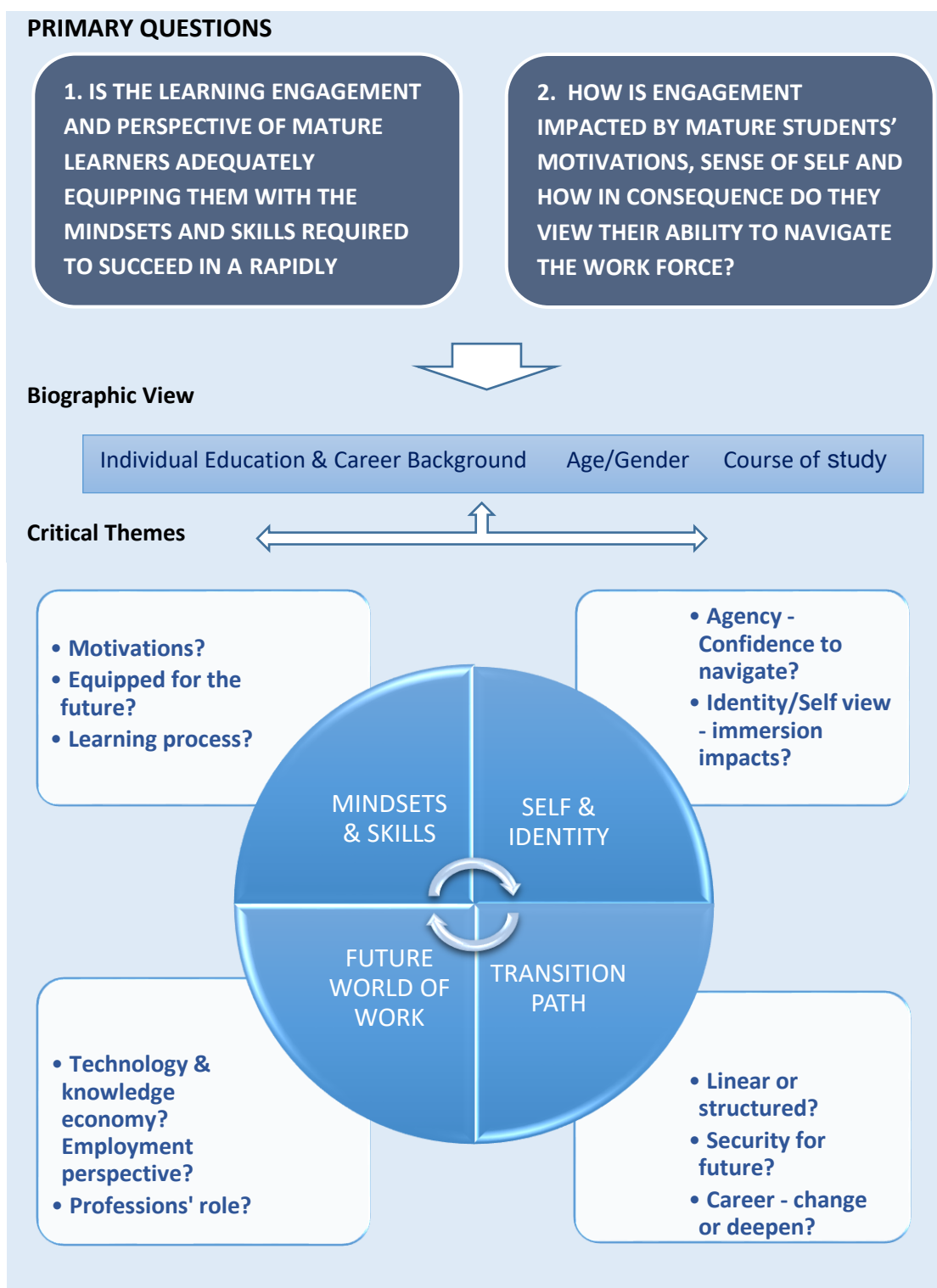
for a level of analytic generalisation, albeit with some caveats.

A “set” of open-ended questions (Appendix A) was developed for utilisation in a semi-structured manner to aid exploration. These scaffolded the enquiry to cover an array of issues/topics while affording opportunities for new perspectives to be introduced and/or issues explored. These provided prompts to draw out responses - which the mature students may or may not have reflected upon - to discover how deeply issues resonated.

Figure 6 outlines the process followed. Prior to the prompt questions, participants were requested to give a short biography outlining their work and education life post-school. This helped situate their experiences and condition - enriching discussion. Subsequently they were led through the prompts, referencing four themes:

- **Mindsets and skills:** the intention in this subset was to understand mature students’ motivations and how this linked to the education decision and future work. Questions explored the outlooks and skills individuals embraced, or believed they were acquiring, to address the employment situation and how they viewed assistance from their learning organisation.
- **Self and identity:** this related to notions of ability to be more self-directed and effective, to achieve a level of self-assurance to address changes in the work environment.
- **Future world of work:** exploration was focused on how mature students saw technology and change impacting their likely world of work. It sought to understand whether the professions were identified as active in this arena.
- **Transition or life course path:** this addressed the nature of the path being followed. Of major interest was whether mature students held a linear view of the education-work-retirement model and any translation to their current studies. If students are able to accumulate and structure experience this can assist build biographicity as a competency; however if views are constrained by old models that can impede successful transition to different career or activity paths.

Figure 6: Mature Student Interview Design Model



Employing a semi-structured approach was designed to provide flexibility by allowing people to share perspectives on multiple themes, to bring in new ideas, nuance issues including backtracking and enriching commentary. It was seen as facilitating the flow of focus group and interview interactions and served as input to the analytic process in coding issues or themes.

The interviews gave time to understand participants' experiences and educational and work backgrounds. In practice, they were universally very open including about difficult times and struggles such as with family violence, drug and alcohol dependency, sexual orientation, and gendered roles in society. Interviewees proved more expansive than focus group members given the individual time allocation with one-on-one settings conducive to sharing.

Usage of narrative necessitates interpretation from both parties – mature student and researcher - leading to joint construction of meaning (O'Shea and Stone, 2011). Care was exercised in interviews so the participant's narrative did not overwhelm eliciting of information and insight (Hartley, 2004). This was a benefit of the semi-structured approach. Prompt questions were asked in the main of all participants and facilitated conversation.

While the study has sought to reflect accurately and insightfully the research participants' views, their interpretation and presentation necessarily results from the researcher's focus and conveyance. The researcher's personal overlay is referenced in the Preamble, with the concern prefaced that despite undertaking a deep investment in learning – personal, professional and financial – mature students may be less informed as to the way work is unfolding. In consequence they are potentially ill-versed and/or ill-equipped to understand the pace of change in their chosen professions and for sustained employment. Further the bodies they rely on to assist - education providers and professional associations - may themselves be unprepared, inadequately resourced or directed elsewhere and unable to give sufficient insight.

Equally the researcher needed to be aware of any pre-conceptions and how this

might bias interpretation. Specifically being attuned to mature students demonstrating a level of optimism and resilience which suggests the ability to adapt and change, that the fracturing of the old paradigms of 'education-work-retirement' will be absorbed with little dislocation, or that students are informed but unconcerned: each would counter the researcher's standpoint. It was important to be open to a view there is no need for wholesale changes in perspectives whether from students, educators, professions and employers in the outlook for mature age students' workforce engagement and success. In this Stake's (2011) counsel is appropriate

Research enlists different personalities in research. The constituency of a research community needs a variety of personalities. Either too much commitment to change or too much skepticism, across the community, will crimp the scope and zest of research. Each researcher has an obligation to think about activism and reticence and to recognize them in him or herself—and for the good of community, perhaps welcoming difference in others. (pp.15-16)

This was addressed by reflection and on-going and repeated review of transcripts and findings.

4.4. Research Situation

The research occurred in an Australian for profit, NUHEP with multiple, state capital city campuses. Operating for over thirty years, the College delivers accredited, higher education courses at under-graduate and post-graduate level. Three disciplines were represented - Social Work, Psychology, and Counselling and Psychotherapy. The qualifications awarded are recognised by professional bodies including the Australian Association of Social Workers (AASW), the Australian Psychologists Society (APS) and the Psychotherapy and Counselling Federation of Australia (PACFA) respectively.¹⁹

¹⁹ Tertiary Education Quality Standards Agency accredits for higher education offerings

The disciplines fall within Health Care and Social Assistance occupations comprising 13% of the Australian workforce in 2015 with forecast growth of 16.4% or 250,200 jobs to 2020. While university qualifications have become increasingly prevalent vocational education and training qualifications are common. Currently, the workforce is skewed to female (approximately 80%), part-time employment (45% relative to 31% across all industries) and a high proportion of workers are over 45 years (over 46% vis-a-vis 39% for all industries) (Department of Employment, 2016).

4.5 Ethics

Ethical considerations were incorporated via a staged process in accordance with the University of Liverpool's process. Research approval was obtained from the Virtual Programme Research Ethics Committee (refer Appendix E). The students contributing had a level of maturity and life experience and those in the study were into a minimum of a second semester of successful coursework. Key risk areas were identified that might cause concern or anxiety e.g. difficulties in work/study/life balance, unemployment and redundancy, age discrimination. Arrangements were in place should students seek support because of any issues raised.

In enacting the agreed process all mature students were provided with information on the research ahead of focus groups and interviews which were repeated at each contact (Appendix D). No adverse events were raised as a result of the students' engagements. All data was recorded with permission and students gave agreement for verbatim quotes to be used, while identities were disguised.

In the case of the focus groups, the School offered time for focus groups with undergraduate and post-graduate students to occur in lieu of a class, in November 2016. The School presented these as an opportunity for students to consider wider issues of employment and the environment - consistent with the milieu in which modern day Social Workers are, and will be, employed. Attendance was optional. Head of School, Prof

Noble²⁰ imparted the faculty believes it is important students' understand a wide range of influences impact discipline practice: the environment and sustainability, government refugee and migration policy, as well as economic change. The opportunity to participate in, and see research in action was viewed as potentially beneficial. Recognising ethical issues - including potential to be seen as an "instruction" to attend, students were reminded that participation was optional; including reinforcing comment that no consequences would follow should they chose not to attend or remain. No staff were present and were not located near where the groups were held.

The "substitute" class aspect complicated execution with a few students joining after the session commenced. This required the researcher to halt discussion and reiterate the nature of the research including the option to leave without consequences. Further, there were present students who identified as younger than the requested age group. Given it was not possible to exclude attendees the approach taken was to position all contributions as adding to the context; but only contributions of students fitting the age profile were used.

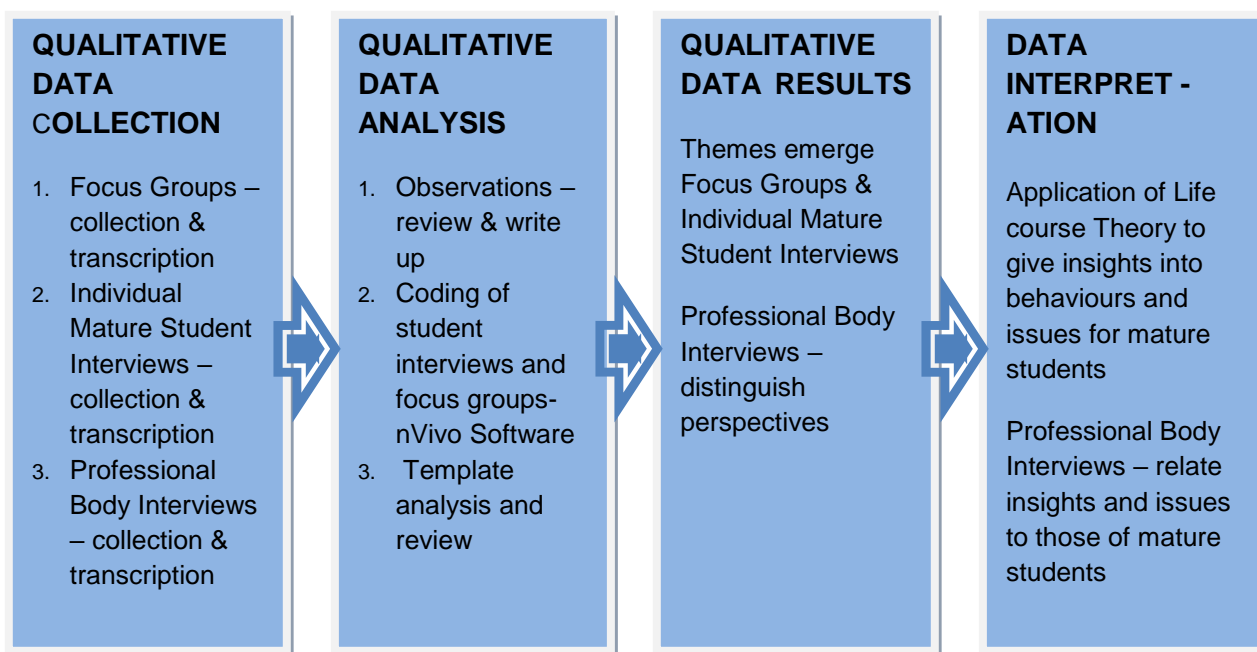
Only two professional groups responded to interview requests. The very small number of professional groups in Australia means identification would be evident and accordingly they were approached to disclose representatives' names. This was agreed and interviews were digitally recorded with permission, transcribed verbatim and provided to the individuals for checking. Both agreed to use of their insights and quotes.

4.6 Data Collection Method

A combination of focus groups and individual interviews, supported by observations and two professional body interviews was employed. The exploratory design instrument (Figure 7) adapted from Creswell (2009) to meet the specific needs of the research shows the staging adopted:

²⁰ Prof Noble gave permission for her name to appear

Figure 7: Exploratory Design – Instrument Development Model



This sequence enabled data to be managed for the subsequent step and resource issues could be addressed including timing. The staging and pragmatic focus proved helpful in securing College support in terms of facilitating resources to conduct the study (Teddle and Tashakkori, 2011) and seeking participants via advertising the research on student portals.

Commencing with focus groups was designed to generate ideas and test the themes adduced from the literature for resonance and understanding. Subsequently, interviews allowed deeper exploration and expansion on those themes - including scope for specific issues to surface (e.g. experience of factors affecting job change). Both approaches carry the proviso that what people say does not necessarily indicate what they think; and participants may as members of a particular social category have a stake in that category (Potter and Hepburn, 2005). Gubrium (2012) stresses the criticality of being aware of the social, historical and cultural situation in which interviews are conducted and that individuals may be speaking with particular voices or constructed identities. The effort to secure a range of views with opportunities to share perspectives does support a level of access and for insight to be derived.

Professional groups were last to enable insights from the focus groups and interviews to be presented for response.

4.7 Sampling

The research employed a purposive approach to data gathering given the deliberate selection of participants with particular age and educational characteristics. (Blaxter, Hughes and Tight, 2010, Maxwell, 2005) The objective was to engage people who were willing to provide information and opinions by virtue of their knowledge and experience in an “articulate, expressive and reflective manner” (Etikan, Musa and Alkassim, 2016 p. 2). Allied to this was the importance of their availability.

The two focus groups comprised Social Work students. Established in 2014, the School of Social Work offers undergraduate and post-graduate degrees using of blended delivery although core subjects are available only on campus. Overall numbers were approximately 125 and gender composition is heavily female.

Students numbered seven in the requested age band in each focus group. Group 1 students were first year undergraduates (SW1) and all female with age range 37-47 years with educational experience varying from school leaver to post-graduate. A majority had been working in health or areas related to the helping professions, and commonly expressed having an interest in social justice issues. Group 2 (SW2) comprised students undertaking master degrees²¹ and consisted of women aged 34-52 years. All had undergraduate degrees – chiefly teaching and allied health with a couple transitioning from business occupations.

Interviews occurred with students studying counselling and psychology. The School of Counselling and Psychotherapy is the College’s oldest discipline having

²¹ Masters of Social Work (Qualifying) requires a bachelor degree in a cognate discipline. The course is two years full time with two work placements (equivalent 1,000 hours).

commenced in 1983, while the School of Psychological Science began in 2010. The schools had 2000 and 700 students respectively in 2015 comprising undergraduate and post-graduate students from Diploma to Masters' level. Gender is skewed to female with more mature students in terms of age profile.

Interviewed students were at various stages of progression from first year to completing and within 35-65 years, with approximately two thirds female. Modes of study included full and part-time with blended or fully on campus attendance. Students were located near Eastern seaboard campuses with a few in regional areas. Educational attainment varied widely. A number had entered the undergraduate programs via vocational qualifications in the field (e.g. a VET Diploma of Counselling provides equivalent first year standing in the Counselling undergraduate degree) whereas others held post-graduate qualifications.

Forty one individual semi-structured interviews occurred from late November to 23 December, 2016 – sixteen from Psychological Science and twenty-five from Counselling and Psychotherapy. The Schools facilitated interviews - sharing an approved advertisement about the research on student portals. Interviews were scheduled to meet individual availability and conducted almost entirely from home by Skype or phone - averaging fifty minutes.

The exploratory nature of the research meant specific characteristics were not established in advance with “the research process informing the ultimate number of participants” (Beitin, 2012, p.244). The quantum reflected the wide window (five weeks) to facilitate access (students were completing exams and assignments) and to demonstrate regard for their participation. Thematic redundancy did not materialise until the latter interviews; and having established bookings they were conducted out of respect for the individuals and the Schools (Beitin, 2012).

4.8 Focus Groups and Interviews

4.8.1 Focus Groups

A semi-structured approach occurred over 90 minutes with discussion moderated by the researcher. The method's advantage was that participant interactions and discussion could assist in surfacing potentially sensitive issues in a familiar but informal setting e.g. employment loss, feelings of uncertainty and the challenges of being a mature student. In socially constructing the data that emerges individuals are able to consider their views against the backdrop of a range of contributions from others present (Merriam, 2009). Concomitantly, the presence of individuals in similar situations or with understanding of those experiences was viewed as conducive to sharing, with consequent data and insights being more accessible to the researcher. Topics included attitudes to career and education in maturity; socio-demographic influences; perspectives on work's changing nature; career aspirations; and elements in the learning environment to assist mature learners.

Weaknesses to be cognisant of include dominance by particular individuals, an absence of interest or contribution on topics or issues, and limited involvement by participants. This method does not necessarily build consensus nor provide empirical reality (Krueger and Casey, 2001). These were considered through having key topic areas, specificity – to drill into issues/observations, and depth - to attain sufficient profundity in exploring feelings, attitudes and actions (Morgan, 1988). Discussion flow was assisted by creating a conversational environment, attending carefully to comments and using this to foster exploration while gently drawing attendees into discussion. The Janus-like strength and weakness of focus groups lies in the group dynamics facilitating insights while potentially contaminating individual views (Freeman, 2011).

4.8.2 Focus Group Observations

Participants showed curiosity in the exercise and potential relevancy to their studies and themselves. The researcher commenced by explicating the research, sharing some of her learning journey and then asking students to relay their journeys. The latter,

albeit brief, aided establish a conversational approach with people taking an active interest and, as the session progressed, referencing other's experiences as a point of similarity or difference e.g. family members concerns as a common factor in course selection.

Working through the questions, the impression gained was that some issues raised were new or had not been the subject of significant reflection; including whether the sectors they were joining might be disrupted by technology and future learning to accommodate a changing world of work.

4.8.3 Individual Interviews

Upon commencing the researcher relayed a very brief work and education history, acknowledged a role as a mature student and explained the research while the Participant Information Sheet (Appendix D) was referenced explicitly. Interviews allowed exploratory depth with the one-on-one setting appearing to encourage learners to speak freely and widely (Wilkinson, 2004). The semi-structured approach provided scope to uncover surprises and take analysis in new directions (Barbour, 2008). This gave salience and genuineness as interviewees proffered life aspects that shaped their learning journey and goals and aspirations. Effort was made to have individuals express themselves authentically to produce open, rich and trustworthy talks. This recognises that interviews will be influenced by the social situation and the way language transmits meaning - a key to representing views (Alvesson, 2011).

A disadvantage of this method is presumptions participants' experience approximates the researcher (Stake, 2011); this was abetted by brevity and focusing on their narratives. Other limitations include susceptibility to withholding descriptions or embellishment if the truth is inconsistent with preferred self-image or to impress the interviewer (Barbour, 2008, Beitin, 2012).

4.8.4 Interview Observations

The interviews were characterised by willingness to accommodate the researcher with students often nominating times which took time from work and family life. There was

a generous offering of insights and no participant suggested expediting matters. The reception was warm with interest in the interviewer's learning including encouraging comments about being a fellow traveller as a "mature student".

Interviewees in relating stories about education and work experiences prior to their current formal studies indicated a positive interest in re-counting their narratives. A number explicated issues overcome including financial, situational and psychological. . The chance to reinforce their journey and efforts, to share aspects of progression and sense of achievement and to have someone new attentive to their experiences appeared affirming. Narratives were shared without evidence of stress but neither were difficulties overcome portrayed with gloss, hubris or bravado.

4.8.5 Professional Association Interviews

Separate interviews were conducted with senior professional association representatives - Counselling and Psychotherapy – PACFA and Social Work - AASW²². The Australian Psychology Association did not respond to requests.

PACFA's CEO Maria Brett was interviewed. PACFA, the newest of the professional bodies, was established in 1995 as a federation to bring various counselling and psychotherapy associations under one umbrella and secure increased influence. The entity's composition is changing as individual memberships were instituted recently to expand reach and representative status. The CEO stated a majority of members are female, middle-aged and working part time for modest incomes. She observed a propensity to favour traditional approaches to working and less efficacy with technology.

AASW's Acting CEO Cindy Smith was interviewed; stating responses reflected her views and not AASW research. Formed as a national association in 1946, AASW works with a national structure and nine branches approximating Australia's states and

territories²³. Both national committees and branch based practice groups support the Association's work. Ms Smith indicated the majority of members work full time with a high female composition.

Semi-structured phone interviews averaged fifty minutes. The interview guide was requested in advance to help the CEO's understand the research areas. The focus was addressed to awareness of issues, policy response and processes and potential concerns. Duke (2002) observes this offers a way 'to explore innovation, originality, complexity, interactions, conflicts and contradictions' (p.42) with a level of fluidity given there can be study of processes unfolding in real time (Lancaster, 2016, Richards, 1996).

AASW's role needs to be set against the intensifying politicisation of the policy domain in which the professions in this study operate. Each seeks to facilitate extraction of an economic rent from policy makers in an increasingly contested market and under budgetary constraints. The professional associations have a critical interest in presenting their contribution and members as in synchrony with policy maker and community expectations. However, tension arises between associations' advocacy for more funding for one-on-one therapies and services vis-a-vis community needs for solutions which deliver cost effectiveness with critical mass. Encouraging more entrants can lower price, while fostering technology to deliver services with more flexible time frames or remotely, and as a substitute for personal service may conflict with some members' self-interest.

An alternate view is that modern technologies integrated into practice may enhance relevancy by attuning services to client needs. Dombo, Kay and Weller, 2014 note increasing evidence of Applications as viable alternatives to traditional face to face therapies. However professional and accrediting bodies may be slow to lead. They instance USA professional educational bodies not including knowledge of, and an ability to use technology, as a core competency despite trends to greater use in service delivery with expectations to continue. The Australian situation appears similar. Having the professions lead exploration, including providing guidelines, could advance valued and

²³ AASW web site <https://www.aasw.asn.au/about-aasw/about-aasw>

ethical practice and opportunities for extended member influence and impact.

Regard was given to the interviewees' potential "elite" status. Although not a well-defined term, recent writings on elite status individuals reference characteristics of power and control, organisational context and position, and ability to influence outcomes and debate, and not infrequently difficulties in access (Lancaster, 2016, Mikecz, 2012, Moore and Stokes, 2012). The interviewees were senior in the profession and involved in shaping strategies and execution. Securing time was challenging, with the researcher conscious of supportive recommendations from College educators with direct approaches to the associations. There was recognition of not being negative or overly critical in framing issues and perspectives for comment given the goodwill of a range of parties.

Neal and McLaughlin (2009) observe a level of 'mobility' in the power relationships present in interviewing elites. The sharing of views, the basis for their formation and the course of an interview and how that translates into the power relationship is "an ambiguous, fluid, multi-directional dynamic"(p.695). Bognor, Littig and Menz (2009) reference the term 'bargained research' in recognition of the interests of both expert/elite and researcher. Duke (2002) notes that policy networks themselves contain conflicts and contradictory pressures within the policy process which complicate eliciting of perspectives and subsequent interpretation.

While interviews were very cordial, the researcher was conscious of Neal and McLaughlin (2009) quoting of Bondi, 2003

... 'the inherent uncertainty of field work' in which researchers 'confront an array of questions and dilemmas ...[including whether] we should seek to empathise with those we interview' (Bondi, 2003, p.67).

4.9 Data Analysis Process

Data generated was substantial and a qualitative data analysis software package was viewed as providing advantages in managing volume and facilitating exploration and retrieval of responses. NVivo 11 Professional software was used with selection based on accessibility, widespread application in qualitative research, flexibility and ease of use, and

cost. The software has instructional support which was of considerable assistance given the researcher's first use of such a tool.²⁴

The approach taken, consistent with the research's exploratory nature, was to review and collate the data to derive and explore themes emerging from participants' contributions and to coalesce and analyse these to present a holistic view. This manner of working has some characteristics of 'grounded theory' with its use of 'a constant comparative method' (Odena, 2013, p, 357). The approach was modified, using the following steps:

- Immersion – producing detailed transcriptions from interviews and groups
- Categorisation – identifying broad categories/themes as the research was conducted and as transcripts were reviewed
- Reduction – refining categorisation into themes and sub-themes as coding proceeded
- Triangulation – checking themes against all transcripts
- Interpretation – making sense of data drawing on aspects of the 'life cycle' paradigm and critical insights

(after Odena, 2013)

Focus group commentary and each interview were audio-recorded and fully transcribed. Analysis proceeded by reading transcripts and identifying broad propositions or categories. Coding each transcript to the broad themes followed using the software. The practice of coding provided for themes from the transcripts (data sources) to be held in nodes (containers) with relevant references (QSR International, 2015). The *NVivo* software allows nodes to be independent or to build hierarchical structures (parent/child nodes) to recognise sub-categories. Both arrangements were used. For example, issues pertaining to computerisation and work implications had "child" nodes distinguishing potential for new growth areas vis-a-vis "technology cannot replace the work being

²⁴ Software use was iterative with initial efforts jettisoned. This aided data familiarisation and reinforced insights from different participants. Note: Coding would have been facilitated by recording people's details in a spreadsheet at the outset with a pseudonym.

contemplated". In contrast a "parent" node only applied for the career issue of whether students were engaging for purposes of "deepening or change".

Coding commenced by examining one interview and analysing it for key themes with verbatim quotes allocated under each theme node or multiple nodes where pertinent. This process of reading line by line and finding ideas and text to code followed systematically for each interview and the focus groups (Siccama and Penn, 2008). As coding proceeded themes were modified including adding sub-themes. For example sub-themes added for Motivation included degree of control, financial issues and status. As part of the coding process all transcripts were listened to and read multiple times. A selection of interviews was reviewed against the coding as a check the software was not driving the analysis. The latter served as a precaution against the software resulting in a "code and retrieve" approach (Lu and Shulman, 2008, p.108).

Specific attention was given to the strength of agreement or disagreement and where students had clear cut and different views these were noted. For instance students differed in perspectives on education and work pathways and it was important to capture the diverse nature and depth of these to achieve a holistic picture. A particular attribute of the software was its support of systematic review and the ease with which large volumes of verbatim quotes could be coded including to multiple themes and then refined - relative to manually. This provided a benefit in "validating (or not) some of the researcher's own impressions of the data" (Welsh, 2002, para 12 cited in Lu and Shulman, 2008, p.107).

Kossen (2008, p.25) drawing on Lincoln and Guba (1985) commends three criteria for ensuring research quality and rigour of the type undertaken: credibility, dependability and transferability. In seeking to apply these, the approach sought to have participants' voices accurately and authentically represented through the data gathering and recording process, and subsequently incorporated into a cohesive body suitable for interrogation. The focus groups and multiple interviews provided rich and abundant data which elicited insights and information about people's circumstances. In terms of dependability, the process for understanding that data aimed at transparency with explanation of the use and application of the research methods. The development of themes emerging from the data was undertaken over an extended period. Checks for credibility were reinforced via

revisiting transcripts and direct use of participants' voices to demonstrate "fair dealing" and a level of accuracy with the coding process.

The acknowledged exploratory nature of the work places inevitable limits on the ability to generalise findings. However the approach constructed identified themes and issues suitable for analysis with the objective of contributing to knowledge and providing findings with a degree of transferability.

4.10 Summary

The Chapter has sought to explicate the value from applying an exploratory approach to address the questions and represent the voices of mature learners – their construction of a world view and interpretation. The qualitative methodology provided a means of investigation which recognises the absence of clear cut propositions and data. This allowed for a design which assisted in data extraction and provided a fertile volume of data from which to identify and test the emergent critical themes. The exploratory objectives were facilitated by the staging - drawing views from focus groups and then more deeply via interviews, and having perspectives to present to the professional bodies. The exploratory approach took elements from 'life-course' to give richer context to the students' perspectives especially influences from early education, work experiences, family responsibilities, life-stages and social and historic elements.

The qualitative approach employed saw attention to immersion, categorisation, reduction and triangulation, and finally interpretation to construct a robust picture from which themes could be drawn with conviction as to their importance, breadth and value.

The following chapter seeks to share these findings with a degree of expansiveness, depth and nuance, and provide a contribution to understanding the complex issues facing this important student group.

CHAPTER 5

FINDINGS AND INTERPRETATION

Chapter 5 presents the focus group and interview responses, collated under the key themes which emerged: Motivation, Sense of Self or Identity and Agency from their learning engagement. It shares views re the “three boxes of life” concept and mature students’ evaluation of globalisation and technology impacts on understanding of their disciplines and future work. As the themes are conveyed, the issues, insights and explanations they give rise to are presented including indications of the depth of importance assigned. Variations in perspectives are highlighted. Views from professional associations’ representatives are shared. The Chapter concludes with how the research has sought to make a contribution to knowledge.

5.1 Introduction

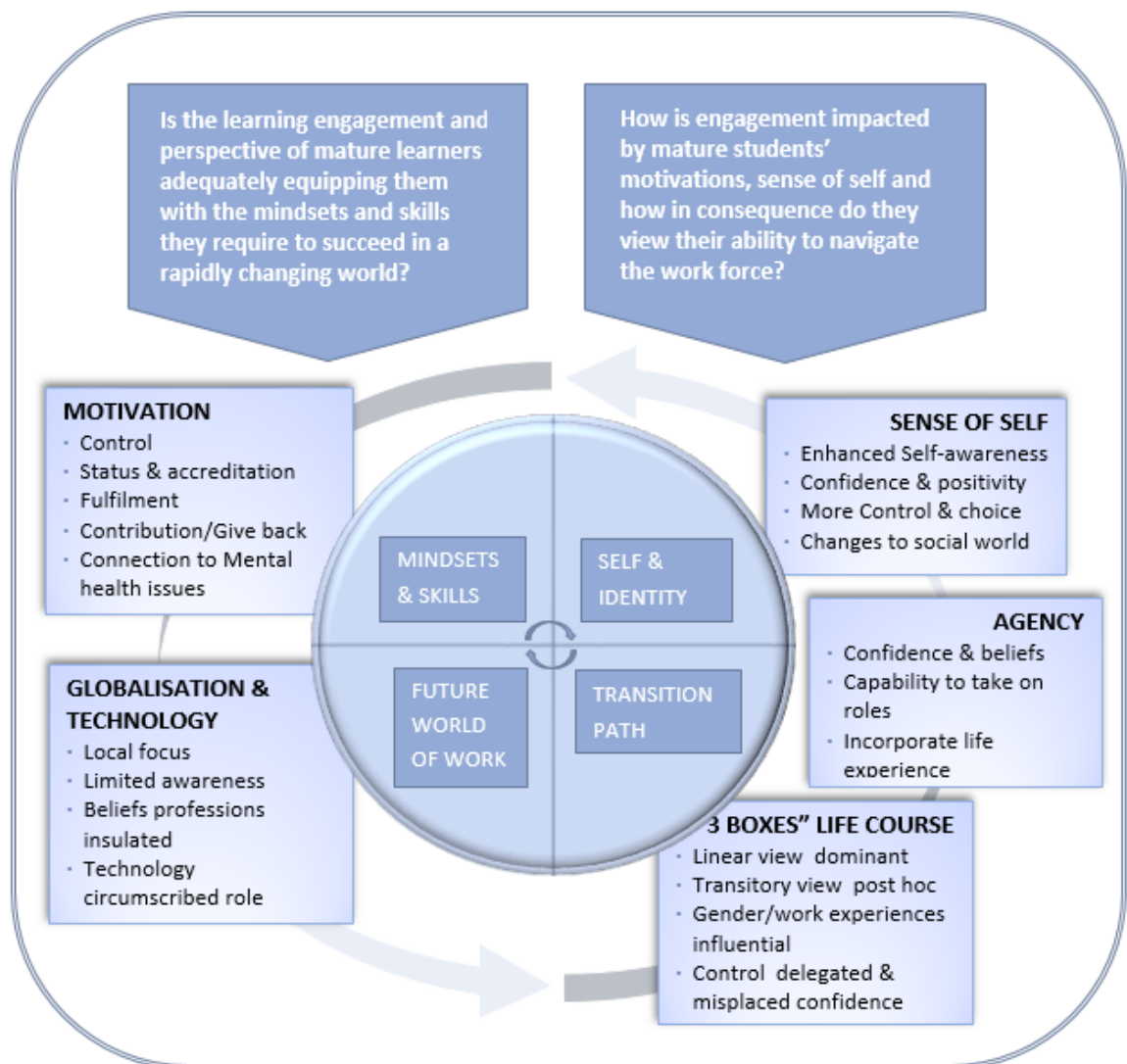
The investigation of issues facing and under deliberation by mature age students, presents a complex picture - ranging across multi-faceted motivations, to considerations of identity and agency, perspectives on technology, and the shape of, and demand for, future employment. Issues were exposed for professional associations seeking to respond to this new, or potential, member group.

Figure 8 provides an overview of the results analysis from focus groups and interviews. It shows the link from the key questions to the critical summative themes:

- **Motivation** – this theme addressed the motives cited but also discerned aspects including having greater control as a determining factor in where people chose to make learning investments. Perspectives from the mature life stage revealed an emphasis on giving back and engaging for social connection.
- **Sense of Self or Identity** – this addressed itself to issues of self-awareness and self-assurance emerging from learning engagement.

- **Agency** – proved a highly important aspect of learning immersion with increased receptivity and beliefs about capacity to take on roles. Views on life experience were noted here.
- **Perspectives on the Life Course “3 Boxes View”** – this addressed the linear or structured learning/work pathways view vis-a-vis more transitory versions in the context of how the conventional learn/work/retire archetype is regarded and ‘modern’ needs for on-going participation. It bears on ability to navigate the contemporary world of work.

Figure 8: Summary of Themes Emerging from the Research



- **Globalisation and Technology** – this explored views of how work would unfold and globalisation and technology implications for mature students seeking to remain working through participation in education.

5.2 Descriptive Analysis – Mature Student Cohorts

The research showed substantial congruity with the ‘life course’ principles after Elder, Johnson and Crosnoe (2002). Commencing with the idea of life-span development, the students interviewed place their learning essentially as part of a life-long process of aging and development. This was evident in perspectives provided on post-school activities (educational and work) with those being enacted currently. A frequent theme was the post-school move into work reflected financial necessity. A number did not complete high school or were obliged to find jobs when school finished to address being “kicked out of home” SWF1 or to leave unpalatable situations

... when I was younger, it was a survival thing. I had to get a job. I had to survive. I had to leave home (G9E)

This persisted with onset of family responsibilities while retaining employment was often exacerbated by subsequent family break up.

Forgoing further study and moving directly into employment was cited where students reflected on family backgrounds that did not value education.

I kind of grew up in a family where education wasn't really valued. There was no kind of value in it. So growing up I didn't complete school. (SW1)

Others recalled an absence of clear purpose post-school or, under parental and/or authority influence, embarked on courses or work to meet expectations regarding accepted social mores or patterns (Cullity, 2006). Narratives showed gender issues with females unable or discouraged from undertaking education (Kimberley and Bowman, 2011, Mooney, 2012, Murray 2015). Others were subject to direction because of the need to “get a good job”:

... we weren't encouraged to go out and become professionals. It was more like finish school, go out to work, find yourself a husband, get married and have kids (A5A)

I wasn't that sure where that's going to lead me but I thought, and everybody seemed to say, that that's the right way to go (C2N)

... it was because everyone else did it, so it was social peer pressure. I suppose it was based on the assumption that you needed the degree really to get yourself a decent job (M7E)

In some instances authority figures were ill-equipped to give counsel

... when I first left school none of my other family had ever been to university. So I felt this real push ... I had to be the first one and my Dad was very much which one are you going to... So I kind of just picked anything at that point and then I didn't get into that so I just did the default. (SW1)

Frequently students stated in reflecting on their work and learning decisions post- school little time was expended evaluating what might be most apposite for their interests, capabilities and/or values. Early experiences of agency were referenced as constrained. This has personal, political, historical and social dimensions for subsequent learning and work approaches (Keating, 2010).

Motivations for engaging in current studies were indicated to be significantly different - influenced by cumulative life and work experiences and degree of control (Cullity, 2006). The overwhelming motive amongst interviewees was acquiring capability to make a difference or have a social impact while aligning with own values for meaningful activity and interest.

... at least it's doing something that might make a difference to someone's life. It's really finding meaning in it I think, meaning and personal satisfaction (C0N)

I rather want to help people who really need help (C6E)

I do enjoy facilitating change in people. So I looked at this course that I'm doing and I thought I need a fresh start. I need to do something that I do believe in and I do feel keen about (A4A)

... my decision to go back in as a mature student was about finding a little bit more purpose and passion (L3E)

This view resonated with a number of Social Work students

I have a big passion in changing or helping to change the education system and the way people will look at mental illnesses (JSW1)

I guess it's more so due to kind of lived experience so I thought I feel really passionate about social justice and going in to fight for the underdogs. (TSW1)

I just needed a change and I'd always been interested in social justice and things. Yeah so I came over to do this degree. (SSW1)

McCune, Hounsell, Christie, Cree and Tett, 2010 recount for Scottish higher education adult students similar motives alongside seeking to widen current role limitations and develop knowledge and skills for career. They observed the desire to make a difference was highest amongst the mature cohort and significantly reflected life experiences. Taylor and House (2010) recounted greater levels of intrinsic motivation among mature UK higher education psychology students at university.

Here, the motivation's strength may reflect the "helping profession" disciplines, but also a different lens on post-education engagement whereby mature individuals have more life skills to harness and a desire to leverage them (Scanlon. 2001).

The second prominent element was interviewees now possessed greater control in making such decisions. Reasons varied including having time (e.g. empty nesters or less intensive family demands), financial independence and ardent and occasionally long-standing, interest in the field. Accompanying this was frequent reference to education providing status and fulfilment, and necessary accreditation to pursue new careers:

I just want to be able to sit down at a desk and do my job and be appreciated for what I do and knowing that I'm doing something that someone will appreciate (C9A)

I would love to be somebody, to have a career (J7O)

I like to be acknowledged as being somebody who's an expert in his professional space. Whilst that acknowledgement isn't a public one, it certainly comes from the feedback (M7E)

I'd picked quite a niche area ..., there wasn't a lot of work out there. A lot of the jobs were asking for a registration to do social work or psychology, so I had to pick one to confirm, get a job (SW2)

Students shared that family or close circle familiarity with issues of mental health frequently influenced their selection:

... following a couple of family issues, (I) got very interested in the whole mental health space. I decided to do some study (M7E)

... (the) different trajectory that life's taken with support issues with my children and family has, yeah, given me an increased passion to want to move into this area. (JSW1)

Remarkably only a couple indicated employer support being provided and none cited any involvement in work transition from government, agencies or other bodies involved in employment. Ronnie (2016) South African study observes the absence of conducive employment environments can significantly devalue the increased academic capital of mature students' engaging in further learning, short changing employer organisations as well (Isopahkala-Bouret, 2013). Students relayed government employment was more restrictive favouring "conventional" paths demonstrating accreditation and specific discipline experience. This helps explicate why students rationally may envision appeal in linear or structured models of education and employment.

Student observations point to deep-seated desires to undertake education which give prospect to shaping learning journeys for such cohorts. Murray (2015) documents a "failure is not an option" commitment (p.158) from her study of mature women returning to education - despite juggling multiple roles. This suggests levels of resilience and energy which may be under-recognised but with support could greatly facilitate the transition process in groups that have struggled (Reay and Ball, 2002, Mercer and Saunders, 2004).

Yet the transformation journey - which as Biasin (2013) indicates can apply to both professional and personal identity - is being left solely to the individual mature student to manage. Keating (2010) study exhibits tension between ideas that individuals' ability to improvise will be constrained by the field of possibilities with which they are familiar; versus views there is choice and equal opportunity and assumedly they can be left to manage unassisted. The mature students sought to make decisions regarding study area and subsequent employment based on their understanding of what the work environment would demand, allied to areas of interest and fulfilment. Successfully negotiation of

education to work Keating (2010) found was variable and often heavily dependent upon elements such as social connectivity, information access and insights into new work areas (Mooney, 2012). The education experience was frequently limited in the relevancy of the skills and insights imparted, an issue resonant in this research.

The opportunity to position for on-going contributions beyond current community norms as to retiring age was an important motivation – although financial reward needs' varied. Those in situations where future income was uncertain often were looking for paid careers while for others the predominant motive was retaining relevancy. Further appeal ascribed to the “helping professions” reflected beliefs in sustained demand for services with involvement persisting into older age.

Financial security maybe. I don't have a lot of superannuation so I will probably need to keep working for a fair few years ... there's an element of that. It gives me more flexibility perhaps and more choices (M8G)

... able to feed my soul and put food on my table. But I need to be able to do something that makes me feel useful and challenges me. I do need to have a challenge; I need to use my brain (K6E).

For me ... working towards retirement, I want to be doing something that I actually enjoyed doing and I want to get up every day and go to do and that actually intrigues me rather than being sort of a cog (N1LI)

Focus groups and interviewees referenced selecting particular courses with better prospects of government funding in post-study employment. Some cited the incentive for upgrading credentials or changing courses was to access Medicare (Australian universal health scheme) rebates.

It was for me, because of finances and people not being able to afford to spend \$150 on a session for art psychotherapy. ... I might as well move into something government recognised with the Medicare rebate ... It seems social work might actually be something that will stick around for a while, so definitely a motivation. (SW2)

The education decision reveals extrinsic and intrinsic motivations - the external rewards of a paid career or the enjoyment derived from learning engagement, and with these having resonance at personal and professional levels (Ryan and Deci, 2000). Moreover, this is seen to have been shaped by experience and to be more personally

informed and driven vis-a-vis early adulthood. There is a constant interaction between development and the aging process with constructions taken from education, family, social involvement and work. This is consistent with the 'life course' perspective's attention on the "bi-directional interplay of individual people with their contextual environments" (Crosnoe and Benner, 2016, p.180).

It points to value in creating tailored dialogues to realise the right educational and work mix to address needs and facilitate participation in work and community.

Findings mirror the 'life course' notion of agency where individuals by their choices and actions serve to create their way in the world - influenced by social milieu and historical setting (Elder, Johnson and Crosnoe, 2002). Mortimer and Moen (2016) observe variation in the way the concept of age is playing out under pressure of changes – economic, social and individualism which are potentially creating new 'age' phases. In the context of massive transformations in work and society it is important to understand how agency is felt and understood and to integrate this to address the needs of mature individuals. It questions simplistic conceptions of what mature individuals can bring to the workplace (implicit in some of the "age-suited" work referenced by Gahan, Harbridge, Healy and Williams, 2016 and Timmons, Hall, Feski and Migliore, 2011) favouring more nuanced, sophisticated policies to nurture talent and contribution.

The study specifically asked mature students to indicate to what extent employment changes brought about by **globalisation and technology** were impactful. An exploration of technology's likely impact in their fields of study and future work followed.

'Life course' acknowledges a person's life course will be embedded and fashioned by the historic era and places in which they are located and experience. Addressing employment change, mature students were variably aware of jobs disappearing or being replaced; and of new skills and capabilities required to retain currency in fields of employment. Technology led disruption is omnipresent – people communicate globally and instantaneously, use search engines globally on diverse subjects, employ mobile devices and sophisticated technologies to help run their lives (Montresor, 2016).

Professionals' skills and capabilities will need to adapt and change in consequence. The cost and demand for services and introduction by governments of

models directed to defining outcomes and measuring results will place downward pressure on the cost of delivery (Productivity Commission, 2017).

There is substantial probability accelerating change will create major dissonance in the helping professions' operation, given global developments. Examples include applications; knowledge access and offerings via the internet; direct information to individuals to manage or be insightful about subjects – via low cost wearable devices; or data and analysis for support and issues management by new or differently constituted providers²⁵.

Recognition may happen but translation to one's own life in terms of understanding employment implications and being able to "manage" that change may be difficult without specific assistance. Cotsonitis (2018) argues for "intensive, interactive, networked learning" (p.503) supported by public and private institutional dialogue which recognises individuals' needs; given they are being asked to sacrifice, save and invest in the future to address the scale and level of upheaval in prospect. However more may be necessary - Livingstone (2012) references significant negotiation costs to secure work post-learning. Several interviewees shared instances:

... (the) job market had completely collapsed basically in my area. It took me six months to find another job so things got quite stressful (A4W)

In the end it just got to me, because technology was taking over all my job tasks that I do, and in the end I felt it was killing me, killing my spirit. ...

people much younger than me too, people in their 40s are feeling redundant, because technology is moving so damn fast, that people can't keep up with it (CON)

I lost so many good colleagues that I was working with to redundancies and restructures over a period of time, and so probably the element of that that did affect me was the fact that I knew that things change so often that you

²⁵ Examples include: Lee and Walsh (2015) applications for new fathers to enhance parenting (USA); Rajabi, Ghasemzadeh, Ashrafpouric and Saadatd (2012) SMS tools for adolescents with disturbed behaviours (Iran); Dombo, Kays and Weller (2014) multiple applications employed for mental health and behavioural problems (USA); Sobring, Bohlin, Ryding (2015) dating violence game-based interventions in schools (Sweden).

can't - the work environment that you're working in cannot be - your loyalty cannot be sole linked to that. It has to be right for you and the time because stuff will change so much within that work environment that your job won't be the same in two years' time. (S0Y).

Awareness was defined by familiar or localised experience and knowledge. Conversance with massive technology driven changes in work (e.g. robotics, applications, AI) was negligible. The prevailing localised view indicates decisions about what learning and how that may translate into work, career or opportunities for societal involvement is potentially narrow and risks being inadequately informed. Notwithstanding demonstrable energy and active commitment to learning, futures may be jeopardised or short-changed by a restricted world view.

If characteristic of mature students generally it raises questions for their educative and employment decision-making. The importance of addressing an absence of understanding of the emerging global picture at employee level is documented internationally (CEDEFOP, 2014, USA Government, 2016, Rotman, 2017). Schmidt (2007) national study of German adults relays lack of perceived benefits - vocational and personal for mature individuals as reasons for less engagement in on-going education; combined with concerns over access and opportunities for advancement. Without insightful information, mature individuals logically will constrain their views and subsequent actions to what is discernible and well understood.

Participants were presented with a statement that for many well-regarded professions (e.g. accountancy, pharmacy) jobs were disappearing under computerisation, machine learning and new applications. They were asked specifically about whether this was an issue in their chosen professions. Overwhelmingly, the notion roles in their respective professions would be replaced was rejected. Social work students asserted social disruption would be a source of demand:

... the ageing population and the fact that there's going to be a lot of people who are not going to be able to work and need to be taken care of. At least this is one profession that probably won't die out, because you need the social element. So this is a pretty safe profession (SW2)

... people were worried about jobs and stuff. That kind of pushed me more towards (Social Work), because it was like, it's just going to create social issues and everything else (SW2)

Ironically these observations did not foster concerns for the emergence of displacing elements intruding on their profession. One participant commented it was “not as though they were in manufacturing” and this attracted no disagreement. This reinforces the observation re the narrow frame being employed.

Counselling and psychology interviewees strongly echoed this perspective:

I think people will always need to sit down and talk to another human being. (G9E)

I'm safe because it's still the same structure, like the same structure that it would have been 30 years ago when it comes to the protection of children and families. (C9A)

A computer doesn't have feelings and part of the counselling process is for the counsellor to be able to feel. The counsellor has got to be [congruent .. a real person and allow the client to see that they're real. (G6P)

The factors that influence counselling and coaching are very much based around the quality of the one-to-one relationship you have with the counsellor or the coach. There's a lot of research to suggest that that is pretty key, so will that industry itself be marginalised by technology? Not to the same extent that other roles will be. (M7E)

Occasionally interviewees saw superior communications technologies bringing opportunities e.g. extending services into remote locations or people without access for transport, family and work reasons. Others restricted technology to improved record-keeping. Bullock and Colvin (2015) cite similar USA views where ICT's are considered management tools rather than of practice value.

A few psychology students showed awareness of applications for diagnostic work and assisting with regimes supporting individuals in managing issues. Such programs were perceived as prompted by funding dictates - not that alternate, successful offerings might be in prospect:

I know it's coming and there's certainly parts of the job that will most likely go to it purely because of the political side ... will dictate the funds that go

toward it. ... computer programming is a lot cheaper than paying a psychologist. It's inevitable but I don't think it will ever replace it entirely (D5H)

There will be a lot of people out of work as a result I think of that technology. Then that's going to change the social atmosphere, which will change the world. But I also think web based, I know they've been working on this a lot, but web based therapists, I mean I think that they could do a pretty decent job. I don't think they're too far from that. People might prefer that because it's a bit private.

I mean there are already counselling apps and things that people - that are very popular. (M7L)

... but you've seen the apps that are out there for psychology, psychology light. .. online apps for depression, ... I'll give you a reduced rate and you've got a psychologist just sitting there on Skype or whatever. But I absolutely could see it getting to a point where so long as the science has shown some sort of correlation between improved outcome and use of whatever. (J5H)

Yes, at some stage ... like machines being able to - having a number of input factors and doing things that maybe people cannot do. But then it's probably using all of that together as a tool and then add in the human factor, which I think is still quite relevant in just helping social sciences sector. There are first trials of machines who do kind of cognitive behavioural therapy attempts ... they probably will impact that sector and change it. (C2N)

These were the exception. It suggests an absence of broader canvassing of emerging, and likely, impacts from technological developments and new means for service delivery.

The adoption of innovative technologies is itself complex without clarity as to how to manage those changes and who will be the beneficiaries. Juma (2016) states the ability to harness technology's power to solve social problems must be accompanied by complementary adaptations in social institutions (p.315). He argues new patterns of co-existence will be required across technology, the economy and wider society resulting in new socioeconomic fabrics. This necessitates individuals having the skill sets to both understand and participate for successful engagement however in the literature the obligation is often directed to the individual (e.g. Grattan, 2015)

Interestingly, some participants intimated a reluctance to contemplate different service and delivery models amongst sector professionals:

I remember [lecturer] saying, I think in our very first class, ..., fortunately but unfortunately, social work is a growing profession. So I think we're dealing with humans and emotions. Also, there's constant social issues that keep popping up everywhere, it's not constant, they're not going to stay the same. They're going to - new ones will arise, so you just can't do that (have computerisation) (SW2)

... it's interesting when you talk to people within the profession, people are like oh no. You can't take away that human element. (C6E)

A couple mentioned university experiences where the teaching focus was described as addressed to “old” theories and ways of working. Students risk losing effectiveness within relatively short time frames of commencing work without exposure to technology - given its rate of change and impact, as referenced in the literature. But fear of loss can lead to change being avoided - even if that forgoes gains Juma, (2016). These may extend beyond material forms to include intellectual and psychological factors such as challenges to established world views and identity. Equipping mature students to address this implies effective and accessible on-going CPD – but the leitmotif is individual accountability.

Course selection was influenced by perceptions of skills acquired over lives, and aptitude and interest. Amongst Social Work students, a few referenced a progression from nursing, counselling and psychology studies to social work as a continuum addressed to helping people. In other instances, particularly psychology and counselling students, perspectives were informed by personal beliefs and views relayed by others as to capability:

I've always enjoyed working with people. I've always - probably since - well my mid 20s I've been responsible for staff. So the ability to be able to do that in a better capacity. (W7Y)

We've always had long conversations about what makes people tick. I think I've always been a real observer of people and the career I ended up in, public relations, really relies on having very good listening skills, being able to get what people were about very quickly (T2H)

Not having sort of superficial conversation. I want to get down to what's going on and people, I think, feel comfortable talking to me about that kind of stuff (D5H)

... friends were having some marital issues. I sat down and talked to both of them and I helped them understand what was going on between them and some of the issues. Only after that did I realise that, actually, I'd really liked the whole process (B3D)

'Life course' theory observes the influence of social timing and linkages. Outcomes that arise from events, transitions and behaviour will be affected by the time in life at which they occur and the "differing patterns of social networks in which people are embedded" (Hutchinson, 2008, p.29). The interviews showed learning choices heavily influenced by events at different times in life including assisting friends, children's friends or work colleagues, experiences of family mental health issues and feedback they were good listeners or empathic. Beliefs about aptitude accumulated over time and in varied social settings. Paradoxically, they relayed reinforcement when work or existing life activities were perceived as failing to utilise these skills.

George (2003) references increased importance to constraints posed by social relationships in exploring linked lives. However by contrast some students' frustration at being unable to utilise capabilities appears a factor in prompting study. It suggests value in facilitating mature workers and learners to explore life experiences to uncover aptitudes and interests, and inherent wherewithal or resilience to pursue. It evidences aspects of Murray (2015) and Dawson (2013) findings of a less passive transformation given mature individuals bring 'other' work and life experiences to their learning and to their perspective on their new professions.

No mature student indicated any formal assessment or structured consideration process in determining studies and career considerations. This serendipitous approach alludes to whether better options could be offered to inform the process. Aptitude and interest could be included and elucidated but it would seem pertinent to complement this with insights into workplace or community skill sets which embody future relevance. Without understanding the sectors' and professions' likely evolution, mature students appear disadvantaged even naive in their decision process. Their capacity to ameliorate

this is necessarily less than for younger students in terms of time frames and investment/return cost.

Interviewed students were using government funding for their courses²⁶ (ACAP data). If income earning opportunities are constrained by the way mature students select learning and consider future areas of employment, this represents a potentially high cost to them and society. The career decision's significance is evidenced by 70 percent of students interviewed positioning study as about career change vis-à-vis career deepening. Related to this were participant comments that change would provide flexibility: allowing them to "work into old age", be a "transition to retirement" and work part-time.

Mature learners already working in social services' type activities (paid or voluntary) highlighted the 'career deepening' rationale as facilitating progression (e.g. degrees lead to more senior roles) or enhanced options (e.g. from community counselling to psychology). Additionally, found the learning process was itself a 'deepening' experience offering benefits in terms of "own thinking and capability" (M7E). The views echo Kidashi and Manheimer (2009) typology with students showing predilections for 'portfolio life', 'second career' and 'career extension'.

In elucidating views on 'life course', the issue of linearity as it impacts post-school approaches to education was discussed. The objective was to elicit how structured were mature students' views and enacted responses to learning and career. Was career perceived as a 'trajectory' after Macmillan and Eliason (2003) - as something engaged over a long term in a designed or controlled fashion? Likewise with 'transitions' – those specific events where people move in and out of institutions and roles - did these exhibit a level of structure intentionally moderated by education? Or were responses much less structured in terms of behaviour and less holistic in outlook?

Specifically views were sought on education as part of the **"three boxes of life"** pattern (Daneer, 2002) of education-work-retirement. This was discussed as being

²⁶ Most domestic NUGEP's students pay tuition fees using the FEE-HELP loan scheme. Loans are repayable progressively on reaching an income threshold. (Australian Government 2017 *Study Assist*)

structured or “lock-step” - finish school, undertake tertiary education and embark on a career with possible additional learning in support followed by retirement. An alternative view was that educational engagements were more fluid and transitory in the manner by which they could, and do, provide a basis for career. The latter proffered a more fractured view of education and career intersections.

Moen, Kojola and Schaefer (2017) observe persistence of the view around people flowing in orderly fashion through education-work-retirement despite “demographic, social, technological, and economic forces upending conventional linear career and exit paths” (p.848). They argue the declining social contract reinforcing lockstep careers is fundamentally mismatched, along with “outdated institutional logics, policies, and practices shaping the conventional life course” (p.848) (Moen, 2011, 2016)

These are complex notions and responses varied. An upfront caveat is that individuals may be less reflective of their own journeys, of using such frameworks or placing their learning and careers in such contexts. Confidence regarding depth of consideration therefore is problematic. Focus group and interviewed students were asked to consider their current learning journey and future view against the backdrop of post-school education and work and career paths. Specifically raising these events and paths provided a means to segue to this issue – deriving a number of insights.

Focus groups were the least forthcoming. An issue which surfaced in response was whether they could rest on current formal studies to provide sufficient capability for employment. Students stated this would be supplemented by continuing professional development via short courses and on the job training to retain accreditations. Somewhat tangentially, a number suggested their employer would be a source of on-going training. On the job experience was stated to be where “most learning” is done and this met with non-verbal cues of support. This suggests a perspective that formal learning is more a pre-requisite, reinforcing the linear view.

I've been doing some - studying since I left school. I think this will get me professionally where I want to go in terms of working with veterans and have that accreditation to do that. ... (with) just some professional development along the way, maybe in certain [modalities] or - which I've done also but I can just keep on doing that (SW1)

I think that will be enough as a big picture ... So I think there'll be in-service courses and smaller parts of education within that that you'll probably - depending on which area you go into you might go .. I hope this will be enough to get me started and then I'm assuming that I will have to do smaller courses within that (SW1)

Important issues are raised by such perspectives. If formal learning is regarded as a stepping stone with subsequent “on the job” experience that makes the difference, then the career journey is substantively employer dependent. Assuming employer-led “professional development”, means mature individuals’ capacity to inform themselves of a bigger professional picture may be compromised. How do they avoid being drawn into a tunnel vision of their role or delimiting learning pre-eminently to current work? And more concerning, if employment is increasingly short term or contractual there may be no employer for this assumed role.

Yliruka and Karvinen-Niinikoski (2013) acknowledging the increasingly complex world and demands on social workers stress the need for individual learning and learning communities to merge into “knowledge–creation dialogues” (p.194). Fournier, Zimmermann and Gauthier (2011) state individuals seeking to be proficient work participants need to be active to achieve a level of coherency in managing their trajectories. Such observations underpin the importance of mature learners having perspective on where, and leverage on how, future learning needs are addressed. It denotes substantial individual effort – reflective practice and evaluation, coupled with engagement in effective communities of practice. However Dawson (2013) argues that the emergent need to self-manage careers is in variance to traditional models evidenced in professional communities of practice. The literature appears to be foreshadowing new communities of learning needing to evolve given fractured work arrangements and diverse knowledge creation.

Professional accreditation activity is necessarily directed at the short term, even immediate, with concomitant tools and models. A legitimate focus on quality assurance is welcome (de Paor, 2016), but is inadequate to respond to wholesale sector disruption. The structured embedding of accreditation and CPD are unlikely to prove satisfactory in securing holistic or informed views when change is so unpredictable. Mechanisms to contemplate very different structures and working models are necessary. While there is

merit positioning this as a shared responsibility - with individual, educators, employers and professions each having an accountability, it is essential individuals know how to question and seek out new options for learning.

Almost half the interviewees identified with the linear view, one third indicated a “transitory” stance was preferred and almost twenty percent advocated for a dual view. There was a gender difference - female interviewees made up an overwhelming proportion advocating a transitional perspective and similarly for the dual contention²⁷. Male propensity for a linear view may reflect life transitions with mature males having higher levels of exposure to structured learning – apprenticeship, vocational or university, throughout their lives. Significantly, many female interviewees commented they had no tertiary education post-school and were often influenced into immediate engagement in work and family responsibilities:

... my family didn't foster tertiary education, I had no concept of it, how I would manage it and how people did that (K6E)

I didn't get a career. I didn't study after school. I travelled overseas for a few years. I got caught up in drugs and alcohol and then coming out of the other end of that I did a lot of personal development to help, I suppose, normalise myself so that I could be a functioning person. Then I had children and I moved away from (city) and my life for the next 15 years or more was involved in raising my children (M8A)

I was the first year of VCE²⁸ ... and then went straight to work. I didn't do particularly well at high school and wasn't interested and family life was a bit crap. So I kind of just scraped through. (W7Y)

I never even considered investigating university back then, because I mean I didn't even know anyone who did to be honest. We just come from a working-class family... I didn't come from an academic family and it was probably more to do with the generation.... Expectations weren't super high and my sister was a shorthand typist ... and I wanted to do it and I was

²⁷ The exploratory research means caution is required as the “interviewed group” comprised 28 women and 13 men.

²⁸ Victorian Certificate of Education (VCE) - received by Victorian state students on completing secondary education.

really good at it too. I stuck with that. But of course, things change don't they? (CON)

Hutchinson (2008) points to fewer discontinuities in male life course trajectories in contrast to women's lives which have been more interwoven with family and operate on "nonlinear time, with many irregularities" (p.30). Even as trajectories have become more similar, it is primarily because women's schooling and employment patterns are moving closer to men's - not because of deeper male involvement in the family domain (Mills and Blossfeld, 2013, Moen, 2011).

This recommends deeper exploration as it intimates gendered experiences in both access to, and approaches to, learning which may be more or less accommodating of addressing change and setting students for success. González-Arnal and Kiley, 2009 state transition may be more precarious for some women than male counterparts due to identification with, and prioritisation of, caring roles. This leads to lower incomes and longer periods of student indebtedness as women trade immediacy of income (a job) over wait-time for better roles (remuneration), rendering the life-long learning response to globalisation much less risk-free (Lister, 2003, Stone and O'Shea, 2013). 'Life course' recognises the nature of development with consequences impacted by how individual's transitions occur at different times in life.

Superficially, openness to a transitory view could be regarded positively if it means students can participate in the educative process and be accommodative of change. The concern rests in its selection as a *post hoc* rationalisation of what occurred; rather than deliberately embrace to provide an advantageous base for pursuing enriching opportunities and addressed to where work and careers will be. If support for the transitory view is based in "idealising" the lifecourse, it may yet be a valuable point for dialogue. When people are able to interpret their lifecourse narrative to support openness to change – to engage in self-reflection – this assists build resilience (Borbély-Pecze and Hutchinson, 2014, Edwards, Ranson and Strain 2002).

Turning to the linear perspective, interviewees often reference it as a pre-requisite to getting onto the career ladder which was reinforced by social and employment situations – particularly post-school:

(I) think the education pathway is actually set up - I was going to use the word indoctrinated into people's minds to go down a certain pathway, which is school, university, work, family, et cetera et cetera. I think people have that in their head. I also think that because of that it makes it very much a personal struggle for people if they want to change (A4W)

It's been stepwise for me, how I've gone about it, because that is undergraduate - tertiary prep, undergraduate degree and getting the practical information and knowledge and stepwise from that, my job, and then into this, to be somebody (J70)

... there is a life stage where education obviously plays a primary part, so I don't see that changing very much in the near future, where [unclear] primary and secondary education will continue ... for as long as possible. There is a linear natural progression of people going through a process (M7E)

The comments show confidence or belief in the linear model as the entry point to carving out a career, even if complemented by different experiences and educational approaches. The prevalence highlights issues for achieving understanding and value from alternate models.

Another aspect was meeting specific professional employment requirements:

... in a way it's set out by the institutions, that this is the curriculum, this is what you have to complete in order to succeed and get your bachelor degree (R2A)

... there (are) particular milestones and hurdles that we need to go through to register as a psychologist, so it's - I guess it's out of my control in terms of how fluid my study is. ... it's been quite rigid, because of the registration requirements (N1LI)

Connected with this was a suggestion that educational institutions having been "...set up decades ago to train in a certain way, may not be equipped for the job environment of the twenty-first century" (A0W). Interviewees raised concerns the linear approach misfired when people were transitioning into work by circumscribing ability to think outside taught paradigms. If education institutions have a limited view of employment opportunities or

skills for the future they may disappoint in providing optimal educational experiences²⁹ Cuconato, Walther and Zannoni (2016).

Others cited instances of overly optimistic views regarding future employment:

... you enter a program (ie honours, masters) and expect that if you do well it will lead to job opportunities or offers, but you find out that it doesn't and employers seem to want a little bit more experience, volunteer work, professional development and so on. So it seems to me to be something designed to support students lucky enough to be part of what you call the linear educational experience. If this isn't your experience, then it becomes like you are forever training and studying, and doing so for nothing. (M3T)

Given the pace of job change this is a serious deficiency, particularly for those with less working years.

Amongst people who believed a transitory view applied currently to their education pathway, a number stated they had initially adopted a linear approach but reservations emerged over whether this lead to a rigidity in thinking which would ultimately prove detrimental. Linked concerns were that having become “embedded” in ways of life – learning, work and social – it is difficult to contemplate alternate paradigms. ‘Life course’ accords regard for historical time and place, and social timing. The linear model’s certainty or predictability – supported institutionally and by previous experiences - provides reassurance given the investment by, and time horizon, for mature students.

It is quite linear in the fact of – it's quite rigid. You have to conform to a certain view, you have to box yourself in to a certain way to get through. (D0D)

I think at the end of the day it's still seen as the school, TAFE³⁰, uni, job and so on. It's almost more so today (G6P)

²⁹ This research assumes tertiary institutions will seek to provide graduates with attributes that address future employment.

³⁰ TAFE – acronym for vocational education and public entities providing such courses - Tertiary and Further Education institutions.

This may be increasingly unwarranted, but few made such observations. The couple that did indicated issues in a “vanilla” and possibly dated model of education:

I think that the university has given me a basic foundation but it hasn't - yeah it's like all the same for everyone, so then I have to go out and find my own niche so to speak (R2A)

But it's interesting that - is there a challenge of that? Is there a challenge to the institutions that have been setup decades ago to train in a certain way, versus what is really needed for the job environment of the twenty-first century? (A0W)

If mature learners discern difficulties regarding how their studies will equip them for future employment there appears a gap to be addressed. Notwithstanding this is exploratory research with a small group, perhaps the more significant revelations are first the absence of awareness and second being ill-equipped with strategies to best position themselves to manage. Ultimately better stratagems may lie in advocacy for life-long learning approaches, periodical review of capabilities including life-long guidance and information on emerging work trends.

Barrie (2012) references Australian universities including lifelong learning as a key graduate attribute complemented by underlying skills clusters of “work(ing) independently and sustainably (including) a desire to meet new challenges” (p.87). Success will require employers, professions and educators to be more integrated and active in future scoping both what and how, skills and capabilities will be needed; and mobilising these to assist people’s learning journeys.

Mature students who favoured the “transitory view” varied in their rationale. A number saw this model mirroring an approach used to navigate their work journeys - including education and roles - to realise their preferred path at a point in time:

...a lot of my learning has been at times when I've wanted to learn something new or taught myself along the way. So contrasting probably now with then was my learning geared towards what I'm passionate about or something that's interesting to me (G6P)

Definitely the latter (transitory) for me. So I've been dabbling in and out of different education perspectives for 20 years (K6E)

... a result of me putting my education first (has) given me lots of opportunity to try new things and have a bit more of a portfolio career. So I feel like it's been a catalyst for change (L3E)

While for others it was more opportunistic but used effectively:

I changed a lot depending on what opportunities were available and what I learnt on the job. So I would meet people that would open up doors of opportunity to particular areas that I maybe didn't know existed, or hadn't had a very concrete idea. So then I could pursue that. (M7L)

A few indicated the transitory perspective was more congruent with contemporary requirements for managing careers and education's increasing availability could make this more possible:

I think it should be transitory and changeable particularly when people change - I mean people don't stay in the one career these days all their lives like our parents did do they? They move and have often two or three different careers. (G9E)

... don't think that what you've stepped into straight from school is what you're stuck in for the rest of your life. Because you can do anything, education is so accessible these days. (K6E)

One interviewee articulated the disappearance of jobs – especially based on technical competencies might push behaviours into more transitory approaches. (M7E). These were not mainstream. The “linear” view prevailed with its predictability and association with securing a career.

Of those taking a dual view, the foundation was an artefact of personal preferences and circumstances. This included comments that a predilection for a structured approach had been thwarted by needing to secure employment for family or social circumstances or non-acceptance by a tertiary institution; by contrast for others it was a “less disciplined” style which didn’t fit with the linear model (T2H). Heinz (2002, 2016) states pathways have become de-standardized and employment careers discontinuous resulting in a contingent work life which necessitates more biographical decisions. He describes education and work settings as “fields of interaction providing experiences and challenges” which consequently require the individual to renew or modify competences (p.26).

The experience of linear and transitory approaches to the learning and work trajectory reveals significant dependence upon the stepped practices in taught tertiary programs delivering good employment and future career outcomes. Cuconato, Walther and Zannoni (2016) in considering educational trajectories note the importance of avoiding traps of structural determinism through uncritically accepting institutional processes. But few questioned learning content or value notwithstanding changing technologies or likely client, employer or government and community demands and importantly their comments did not relay prompts from institutions or professions. The level of individual accountability and associated risk (Bowman, McGann, Kimberley and Biggs, 2017, Robertson, 2014) and the doubtful optimism of “imagined journeys” (Hooley, Watts, Sultana and Neary, 2013) are evidenced.

The issue of agency in the context of the mature’ students learning journey and future view was examined. Agency, in the ‘life course’ paradigm, gives insight into how individuals see themselves constructing lives having regard to their historic setting and social circumstance (Alwin, 2012, Elder, Johnson and Crosnoe, 2002). In this research, agency was important in considering how students saw their education choices and actions, and life view: how they attempt to “exert influence to shape their life trajectory” (Hitlin and Elder, Jr, 2007, p.182).

Overlayed was consideration of how they expected this to unfold given work uncertainties and disruption. Trends point to significant changes in organisational employment models from the late twentieth century – less hierarchy, less structure and more temporary or part time jobs (Barta and Barwise, 2017, Hill, Brandeau, Truelove and Lineback, 2014, Manyika, Lund, Beughin, Robinson, Mischke and Mahajan, 2016).

Exploration of agency was framed as to how mature students viewed capacity to successfully navigate the world of work. Hitlin and Elder, Jr (2007) state agency occurs through situated action in institutions and structures. This necessitates the “actors” address problems, and take on identities and construct relationships to effect solutions in those settings. Heinz (2016) references a “forward looking” notion stemming from Hitlin and Johnson (2015) that coalesces perception of the future and appraisal of one’s mastery. People who believe they have capacity to realise their goals may commit themselves with a greater sense of self-efficacy and positivity to the future. But this

arguably makes significant assumptions about resources, education and opportunities. Heinz (2016) acknowledges these will be unequal but claims these can be overcome by “individual agency, interpersonal support and social assistance” (p.23). His optimism is directed at young people and he claims overcoming obstacles will build experience in negotiation. However Livingstone (2012) and AHRC (2016) document problems for mature individuals negotiating work contracts and age-based discrimination.

In this research attention focused on whether the learning engagement impacted sense of security for the future and ability to navigate an uncertain employment environment. In discussing agency, interviewees showed positivity which notably blended prior experiences.

I just think age has got a lot – which I never thought I'd be saying that, but it has a lot of bearing on how you conduct yourself and your life experiences (it) helps a lot (J2W)

I believe I've got a lot more to give and at the moment I'm just ... trying to get those skills happening and that is something that will get me a little bit further in life. (C9A)

... another bonus for the genre of work that I've chosen to go into (is) that maturity is actually a good thing (K6E)

.. certainly the life and work experience that I've had combined with the degree makes me feel positive about what I'm going to do in the future whether it's self-employed or working for someone else (T2H)

Hutchinson (2008) references research regarding cumulative advantage/disadvantage as being socially constructed. Some students' narratives – primarily female - demonstrated this, relaying lack of access to post-secondary education and stressed financial and family situations. She argues cumulative processes are not irreversible when human agency is exercised, together with resource availability and environmental conditions opening opportunities. Considering learning engagement and exercising agency via the lens of future security, views coalesced around two themes: first, the personal - going to issues of self-assurance and beliefs; and secondly, skills and capabilities to take on roles. Regarding the first, many felt they had been building self-assurance and sense of achievement in consequence:

It will give me personal security, because it will build my confidence a lot more, and it will then validate my credibility as a person (A5A)

... this is giving me security to move into a whole new area and quite an exciting area. (G9E)

Also I suppose it's given me a sense of security for me personally in accomplishing this study (M8A).

Agency embodied greater sense of control based on expertise being generated by the learning but equally in capability to bring a more holistic view. The latter constituted capacity to integrate experiences and being less intimidated or concerned regarding ability to deal with situations and issues.

...(It) keeps me positive and it also keeps me looking forward. ... it's a pity we don't have this knowledge sometimes when we're young and we actually can do it better - I think in hindsight it's also really good that you get to a point in your life where finally it all comes together and you know, you have the opportunity. (G6P)

I think if I hadn't gone back to study, I would feel much more insecure and not sure about how I was going to navigate that next stage ... I feel more confident about whatever the future holds but having a bit more power and control over my choices. (D5H)

I think if I hadn't of done the degree I couldn't have done the work that I was given. Also, I think my life experience and my age, allowed me to say I'm not going to do this. If I'd been 25, I would have gone, this must be what work's about. I would have sucked it up. But this is not a (good) work environment, the management wasn't good, and I could recognise that because of all that I'd done in the past (J2W)

This gives support to Hutchinson (2008) providing a level of optimism to the mature student learning engagement.

Individuals reflected on experiences in familial, social and work situations which gave insights and resilience - mirroring the influence of social timing and linked lives of the 'life course'. Mercer and Saunders (2004) document for mature students at a Welsh university enhanced self-belief and confidence pervading beyond the academic environment. They argue overcoming conflicts (e.g. juggling multiple roles) facilitates development and allows progression (O'Shea and Stone, 2011). A Social Work student commented experience dealing with government institutions and welfare organisations was a particular strength

and unlike other industries where “having a history might be frowned upon” this could translate to very real advantages (SW1J).

For others, value was generated from specific skills employable to change or build career:

I also feel like I'm creating a runway for myself, that I'm opening up other opportunities. That enabling of myself is about opening up a very energetic middle age that is setting me up for a really good older age. (T4E)

... being able to do my clinical masters opens up more doors to be - specialise a bit more, and just be more marketable (C6E)

Focus groups echoed this, with the proviso that how previous and frequently different life events, acquired skills and ‘know how’ were finessed was fundamental in endeavouring to obtain work. A few emphasised the need to highlight the value in “lived” experience against the sometimes greater work experience of younger job seekers. Mature learners referenced perceptions of younger students having less life skills which they saw as disadvantageous.

Mature learners’ self-assurance and resilience, which is nurtured by their learning being integrated into life and work experience, is often under-played (Drury, Francis and Chapman, 2008, Mercer and Saunders, 2004).

Nonetheless, there were undercurrents pertaining to having substantial debt at course completion and uncertainty regarding employment or earnings sufficiency for loan repayment. The latter predominated among students who had difficulty in securing placements. Frequently interviewees observed employers give preference to those with valuable work experience. Some encountered practical issues in securing placements to be able to demonstrate grounded expertise. O’Rand (2002) observes the “de-institutionalization of life course” (p.700) as structural lags arise in responses of social institutions e.g. inadequate funding and support for individuals seeking to adapt to change. He comments the trade-off from increasing individualisation is choice vs vulnerability. Significant assumptions of capacity to enact transitions are pervasive (Cuconato, Walther and Zannoni, 2016, Heinz, 2016, Hutchinson, 2008). Siivonen, (2016) observes those who do not continue to learn and develop themselves are seen as not adding value -

success or failure is portrayed as an “individual responsibility and up to the individual to bear” (p.12).

Others detailed how Psychology registration was dependent upon entering Honours or Masters’ programs with limited places. The College’s taught emphasis on clinical psychology heightened this as an issue given alternative employment was potentially constrained in the absence of a wider discipline view. This surfaces issues for workforce management and the nexus between educational institutions offerings and what skills and capabilities will be in future demand.

Summarising, mature students overall indicated feeling more secure, self-assured and able to navigate an uncertain employment environment due to their learning engagement. Most significantly decisions they were making in constructing their future work lives showed a developed level of agency; notwithstanding historical constraints and social circumstances - whether prior educational access, work experiences and/or family structures and responsibilities. Reservations existed including regarding placement access to garner needed experience, competition with younger people and employer appreciation of value in life experiences.

An observation was the assumption that the learning and “professionalisation” processes - in consequence of their definable sequences, duration and order – were providing confidence regarding employment that may be misplaced. This led to discussion regarding awareness of the **professional associations** - including AASW, APS, PACFA and the Australian Counselling Association (ACA)³¹. Questions asked included what role they were playing in helping students understand options and future career, and their presence in the student journey.

Focus group participants acknowledged needing AASW membership for employment as a Social Worker and to retain accreditation via Continuing Professional Development (CPD) courses. A few recalled being made aware of this early in their studies. The sense conveyed was that CPD under AASW auspices would be sufficient.

³¹ The first three were the predominant entities mentioned and may reflect the education institutions and its staff’s involvement. One student indicated knowledge of ACA for counsellors

Yet, in terms of AASW being active in the students' remit, the sentiment was negative. It was viewed as a post-study consideration given its role setting practising requirements and accreditation.

Discussion was richer in encounters with Counselling and Psychology students. Awareness of associations was variable with APS more frequently mentioned. Students cited membership as adding legitimacy, indemnity (professional) insurance, CPD to retain accreditation and enable future clients to access rebates (e.g. Medicare). Others positively referenced guidelines which facilitated meeting ethical standards.

A few Psychology students knew of APS website resources which were indicated as helpful, including with assignments.

I've even logged onto their website (APS) when I'm doing assignments or if I need to know something particularly relevant to them. So I'd say that's valuable. I know of them but obviously I'm not fully a part of them yet (H1I)

Attendance at meetings and seminars was raised by some as of interest but deferred for time commitment and/or cost reasons. Albeit some indicated they were aware of people finding real value where those individuals had attended offerings.

Several Counselling students stated ACA levels of membership – determined by level of education, post qualification experience and supervision, provided confidence regarding capability which would be of future value. For the majority, professional associations were “not on the radar”, exacerbated by an inability to understand which might be the best representative organisation in counselling:

The course is PACFA accredited, supposedly and I had some troubles with my placement. So that's in discussion at the moment. But I don't know if it really matters too much. PACFA accredit some courses and the ACA accredit other ones and there seems to be some politics between them. So I think it's all a bit of a nonsense. (D6T)

I don't think they have a high profile. I mean I hadn't heard of PACFA until I started doing my diploma, and I think there is a, is it a case worker's association as well? (CON)

Yeah, I joined up with that one (an association for case workers) as a student for 12 months and then after that, well I had got a job in the industry

and I wasn't planning to study so I just dropped it. I mean I can't afford to do it as professional development, it's just one more thing on the inbox. (C0N)

... probably not particularly present. I've forgotten the term, I don't remember if it's student or student associate member of PACFA and I do receive emails (M8G)

A further issue was the absence of insights or assistance with employment post-study. Here concerns ranged from simply securing a role -

... it's an interesting concept, the transition between the person finishing, the association that's helping people succeed in that and the people that need counsellors are not combining very well (L3E)

to understanding options to move beyond a narrow view of the profession:

any link, any close link between the actual students and the different fields at the end where that study leads to, any close link can only be beneficial for both sides. ... if you took clinical psychology or you if do psychology for becoming an HR manager or for doing a selection of stuff or anything, like those different areas, they look for certain skills for certain people. The students, often from early on, they don't know that well what is possible and what they should do (C2N)

Comments in similar vein referenced the College's clinical psychology focus whereas substantial opportunities to contribute exist in organisational psychology, marketing, business and beyond to policy making in government.

Others expressed disappointment with a lack of relevancy

(APS) It has an absence of feeling of dynamic for students and a little bit - yeah, there's no one-on-one communication. That sense of, here we are, this is what we do, here's a quarterly meeting for students. It lacks integrity or some sort of energy level about it (T4E)

I'm an associate member APF. No, I didn't feel that I had support or knowledge (J7O)

Students were receptive to engagement with the associations and believed they could be very relevant:

But this last subject that I've done has been very Federation oriented ... so they've certainly come to my awareness now. With my placement ... I know I will be bringing up ethics and law and federations, I know that they will come up in my conversations with my supervisor. So I'm expecting that they

will have a bigger role to play in my subject now. But up to now no, not really (K6E)

... from a duty of care point of view, overall, the fact that people like PACFA and ICF exist is really important because there absolutely needs to be ethical best practice in the industry. (M7E)

... at this stage in the game anyone can put up a shingle as a counsellor³². There's nothing to stop anyone but I see association with organisations like PACFA as being very important in the future (T2H)

The pre-eminent roles assigned or sought are employment, ethics, facilitating standards and providing means to retain accreditation. However the opportunity to grow in the profession to meet new or emerging areas of demand or to address disruption through technological and globally influenced change appears underprovided. Responses indicated a narrow view of what professional associations have to offer and what is delivered in practice.

Students were asked what **strategies or services have proved most helpful** in supporting learning and career objectives - equipping them for a positive employment experience. The standout element referenced was engaging in practicums. These were perceived as providing authentic workplace experiences with valued opportunities to bring learning to bear on real world problems. Working in authentic situations was advantageous in understanding roles, accountabilities and the ethical environment. Additionally, they provided scope to test areas of interest or open up new paths.

... placement would really give you the confidence to actually go for the job you want to go for (SW2)

... practical assignments are really helpful, just to know how to apply the skills. Because there's a lot of learning, a lot of research, a lot of literature to read, but knowing how to apply that information and being shown how to apply that is really important (SWG2)

³² "Hang out a shingle" - colloquial to be able to offer a service - practice

For Social Work students' opportunities within the learning environment to share experiences and associated collaborative work on problems were valued. The School was viewed favourably for its smaller cohort and being known - "not being just a number":

... with class sizes that are like this it's more interpersonal and I think you get more out of it. (SW1)

... they're a lot smaller, so you feel a lot more interaction I guess (SW1)

Opinions relayed by students in interviews echoed similar sentiments:

... working in the clinic at uni being able to get that direct feedback that literally you can take into your practice the next day at work and put that into practice. Which, I think, in terms of, yeah, the impact on your work that you're doing, that's probably one of the biggest things, and the feedback (C6E)

... placement where I've been working as a counsellor in a tertiary college. It's just one day a week but yeah it was great, it was exceptional. So that sort of brought a lot of - everything together (W1B)

Comments revealed the placement experience brought theoretical studies to life and extended learning. Interestingly too, students were conscious of that experience bringing changes in contribution:

... but I do see the counselling students who are taking the bachelor of counselling who've already done two work placements. I haven't done any. So that's a difference to me that really stands out (H2I)

A few commented that placements revealed fresh areas for exploration with exposure to innovative or different technologies and approaches beyond classroom presentations – e.g. webchat, telephone counselling and social media. CEDEFOP (2014) references the benefits of occupational socialisation particularly where this can be individualised.

Students referenced value seeing their discipline in different sector or employment applications e.g. exposure to social psychologists. A telling insight on the changing milieu in which the professions might be operating came from a psychology student:

There are nurses and social workers and counsellors, and a bunch of people providing that service. So there really is a lot of pressure on psychology to demonstrate what is it - what value does it add? Like what does it bring to that table that other professions can't bring? (M7L)

As people work increasingly in cross functional teams with multiple disciplines to solve complex problems, both understanding and showing the value adduced from one's discipline and experience is expected to be of critical importance. Related to this is the ability to absorb insights and work with other disciplines. There is a risk of isolation and less relevancy if disciplines are drawn narrowly - from the same student:

I thought it was really interesting for me to see how much it - I mean that's definitely not something that we learnt at university. But how can you then apply what you have learnt to new areas? (M7L)

Similarly a counselling student observed re understanding how a profession might be viewed in the context of changing socio-demographic elements:

It's not computerisation. It's not modernisation. It's not technology. It is being aware of where my training in professional field-wise stacks up with changing economic and social - and financial in particular in funding (A0W)

But the tuition process means students are unaware as to potential options:

... if you just look at the pathway that's set up by the unis or TAFEs, they may not actually show that someone with your background, with your skillset, can thrive (A0W)

Only a minority recognised possible issues in taking learning into the field, including in different ways from which they were taught. Billett (2011) states there is a likely need to give greater understanding of the overall nature of changes in work as well as occupation-specific changes (Hooley, Watts, Sultana and Neary, 2013). This highlights issues in defining prospective employment narrowly and positioning oneself most effectively. Potentially, confidence around learning and its application is overly optimistic. Barradell, Barrie and Peseta (2018)

The emphasis is no longer on knowledge possessed by a 'tribe and its territory'. Instead, as Manuthunga and Brew (2012) suggest, it is prudent to think in terms of 'oceans of knowledge' – conditions where there is less certainty, more treachery, and unique encounters amidst a turbulent sea of change.

This is important in the professions where codes and standards can unwittingly serve to restrict the growth, evolution and advancement of professions. (p.270)

In considering the learning environment and setting for success, students were asked specifically about experience as mature age students – did any strategies or

support services resonate noticeably? Were there areas they would seek change or add? This area elicited the least comment whether focus group or interview. Students stated a mix of ages in class was engaging while appreciating having fellow mature individuals; and they felt treated equally with younger cohorts. Acknowledgement of issues with family and work were appreciated including practical elements such as extensions; extra workshops and groups to help those less versed in studying or writing essays (Harlan, 2015) and particularly assistance and experience insights from more senior students. A few commented that age made them less embarrassed to seek assistance and this was to be encouraged.

Flexible class times and blended delivery featured positively for people with work and family responsibilities or distanced from campuses - participation became a more viable endeavour. The few negatives or issues raised were timetabling and cost of or access to specific tutoring.

The final issue concerned **identity** or **sense of self**. This was viewed as crucial given identities are the “traits and characteristics, social relations, roles and social group memberships that define who one is” (Oyserman, Elmore and Smith, 2012 p.69). Identities make up one’s self concept and assist individuals orient themselves and make meaning. They figure importantly in mindsets and motivations as to how people will invest in their future identities. In this research’s context it occurs in the decision process to commit to, and engage in, learning and is underpinned by aspirations and views about the desired self which will emanate. Attention was directed to whether identity (sense of self) impacts significantly on how they address and manage change, and how they will set themselves for the future.

Focus groups shared a sense of increased self-awareness - notably of strengths and weaknesses and self-assurance as to what they were capable of - including relative to younger selves. This presented positively in terms of personal standing and in being able to forge a pathway for themselves (Taylor and Becky, 2010). Walters (2000) observed mature student’s motivation for learning is directed to changing their self-concept and improving self-esteem – termed “regeneration”, which crossed to other areas of life (Chan and Merrill, 2012). Here students expanded on the reflective process’ impact accompanying the learning experience and how responses were unfolding in consequence, including prospective implications

... there's a lot of reflexive and critical thinking and learning about yourself through what you're learning, so learning what your challenges are and how your beliefs and stereotypes factor into what you do (SW2)

I found, as the course has gone along, it's actually ignited a passion or broadened and ignited other passions that I wasn't even aware of ... About working on a different level, ... that sort of built my awareness ... how if you want to change stuff, you've got to do it at all different levels, not just one (SW2)

Introspection led to a better sense of how their identity might function -

Because in these times you can feel really powerless, like what can I do? But I have more understanding that my interactions with people, it does have a ripple effect. (SW1)

with the potential to create a level of assurance and positivity in the way they would present to the world:

I certainly feel positive... this is something that's meaningful (SW2)

Interviewed students shared a greater sense of self-assurance regarding the way they were embarking on the learning and professional attainment process. This frequently incorporated sense-making of prior experiences and using those in how they viewed their self

I'm probably in my self-actualisation stage, where I've actually experienced living with me long enough to go okay, well, I'm this sort of person, and my self is quite strong now. So yeah, I think that is - it's a huge element is having that strong sense of self and actually sticking with it, not doing things that aren't part of the self (B3D)

Others imparted this by pointing to changed behaviours e.g. opening up conversations which previously they would have avoided. Field and Lynch (2015) reference the importance of people being able to manage “the discourse of modernity” (p.11) - having the flexibility and adaptability to participate in modern workforce. The identities transpiring from the learning immersion were able to embrace previous fears of being found wanting or “stupid”. Also shared were indications of greater control, exercising choice and feeling ready to make changes.

I would think (I) have a little bit more confidence. Often it seems to be a path of choice rather than need or must (C2N)

... the fact that I am quite capable of doing these things if I try, if I really try hard and I put the work in, I can do them. It's made me feel better about pursuing more of an academic career. I've gotten this far (DxD)

... having a bit more sense of control over my own destiny. That's really been good for my self-confidence too (D5H)

... getting something happening where I've got a different focus would really help my mental health and it has massively. I'm a lot more resilient, things just are more - life is better (J8I)

Chan and Merrill (2012) state the university experience for adult women in Canada and the UK saw agency developed, enabling them to overcome aspects of structural inequality and to reconsider themselves in work, social and familial roles. Mason (2018) observed the ability to link know-how (practice knowledge) with know-why (theoretical knowledge) empowered agency through increased self-efficacy (Barradell, Barrie and Peseta, 2018); a view shared:

... getting the formal structure around all of these bits and pieces of knowledge that I had, to me is intellectually and, at an emotional level - feels like my sense of self is getting a fundamental basis that I'd felt, often, was missing for me (T4E)

The process also revealed tensions as people's new identities saw them change beliefs and ways of behaving creating difficulties in family and social situations

... my world views have certainly changed in a lot of respects which makes it very difficult being in - my husband and I have been married for (many) years. We've had the same group of people for a long, long time and I've found that my views are quite different now than they used to be and that worries me ... I look at them now and I think I don't like that about you whereas I used to be naïve to that. So that does scare me a little bit (D1B)

Although others found people responding to them differently which was a positive

(I) noticed that people all of a sudden have a little bit more respect for you (J2W)

The students were positive regarding their process of identity formation and overall had managed successfully the potential risks to identity and relationships. The evidence of exercising greater choice and control and achieving a level of readiness to embrace change are powerful attributes. This is a more optimistic picture than portrayed by Mallman and Lee (2016) of mature students at a mainstream Australian university or Reay

(2003). It would suggest value in further investigation and lends support to Waller (2006) view of a danger of over-simplifying mature learners' experiences.

Oyseman. Elmore and Smith (2012) state identities are dynamically constructed in context.

We argued that (self and identity) both experienced stability and context-based dynamic construction... Experienced stability allows people to make predictions based on their sense that they know themselves and increases their willingness to invest in their own futures. (Concomitantly) context-based dynamic construction facilitates sensitive attunement of behavior to contextual affordances and constraints. (p.94)

Identity and sense of self and the consequent self-assuredness are shown to be impacted and impactful in the learning journey. Providing opportunities for people to reflect on their goals, aspirations and responses, and how change in consequence can be powerful in adducing valuable outcomes and the significant benefits from education. It evidences an element of "biographicity" after Alheit (2002) - creating refreshed identities to participate in work and society.

Although touched upon lightly, the comments suggest exposure to learning - often coupled with specific issues encountered in the field - caused deeper consideration of goals and how students would respond - personally and professionally. While helping build competency, the comments argue for exploration as to how students will be equipped to incorporate radically different models of working given anticipated sector disruption. Baird (2009) cautions the process of maintaining identity in transition can be draining. Chan and Merrill, (2012) comment

... it is important to create and maintain psychological as well as intellectual space in the universities for learning, reflection and change (p.250).

The frames of reference mature students were utilising to reflect their sense of self and identity were largely based on the status quo. This poses issues for how effective will be their biographicity competency if the "modern stocks of knowledge" being considered are outdated or churning at accelerating rates. The fragility entailed in many learning journeys has been documented (Baird, 2009, Field and Lynch, 2015, Reay, 2003). The need to constantly challenge the concepts of transition in ways that extract the positive effects for individuals is key (Fragoso, 2013).

Dannefer (2002) assertion of fracturing life patterns implies challenges for individuals to successfully navigate and suggests understanding of how those might unfold is essential for educators and the professions. Elder, Johnson and Crosnoe (2002) reference the importance of social timing and the impact upon an individual's transitions, events and behaviour based on the time in life when they occur. Opportunities and options for adapting to a rapidly changing world are more constrained for mature learners. It is critical they have optimal capacities to construct a wide world view and understand the skills needed to sustainably participate.

5.3 Descriptive Analysis – Professional Associations

Interviews with the professional associations were designed to give insight into their views of mature entrants and the changing work landscape.

Associations varied, in part reflecting longevity, size and influence and links to the political and economic fabric. Significantly, interviews revealed limits on access to resources, volunteer dependence and substantial commitments to community focussed activities including domestic violence and child abuse, underpinned by strong and personal commitments to the people intended for assistance. This left the researcher circumspect in pressing on issues, adopting a role of seeking to constructively put elements forward for consideration.

The PACFA interview with Maria Brett affirmed a strong belief in one-on-one counselling and securing an emotional connection between the parties; however the pre-eminent focus was establishing the profession. Ms Brett expressed that counsellors and psychotherapists have been late into engagement with government and consequently the medical profession and psychologists dominate the space. A critical issue is the absence of Medicare funding for practitioners' clients. The view shared was that the models in place for financing mental health issues are heavily "medicalised" and costly - instanced by the "gate-keeper" role performed by doctors who must authorise mental health services. This was presented as loading cost and arguably duplicating effort. PACFA would prefer

the arrangement was dismantled to allow “better targeting of services” to reflect skills and client need³³.

An issue for PACFA, unlike other professions, is the absence of restriction on use of the word ‘counsellor’, nor any registration or professional insurance requirements. The self-regulatory state - while giving flexibility - forgoes the credibility from oversight by the Australian Health Practices Authority which governs doctors, psychologists and various allied health professions. This is seen as limiting capacity to mandate ethics, skills and investment in on-going professionalism while affecting practitioners’ and ultimately PACFA’s resourcing. Ms Brett noted it confers a status halo to the regulated professions - exacerbated by private insurers’ preferencing regulated providers. She stated the problem is compounded by government reluctance to regulate on cost grounds and stated view of insufficient risk in counselling to warrant such action.

Anyone can hang a shingle up and they still can do that. Our strategy has to be educating the community about how important it is to see a qualified ethical registered practitioner. So that’s why we run our own register – our register is about self-regulating our profession (Maria Brett, 2017)

The need to garner professional standing and secure long term earnings appear the imperative over sector disruption and change. The CEO noted members on occasion struggle with fees, albeit relatively low at \$374 for full professional and \$80 for students³⁴, limiting PACFA’s funding and influence.

However, in advocating for more effective “targeting” of services, employing interactive communication technology was nominated as a good first point of entry for enhanced or more convenient access (e.g. *Go to Meeting*). Ensuring security and stability were stated as important pre-requisites in employing technology with the preference firmly

³³ PACFA’s CEO argues for client matching to service provider including psychologists, clinical psychologists, social workers, counsellors and psychotherapists according to particular need and the different professions’ capabilities to meet them well and cost effectively.

³⁴ Fees schedule 2016/17 <http://www.pacfa.org.au/practitioner-resources/schedule-of-fees/>

for on-on-one counselling as a means of practice. The point was made that access, cost and ability to use technology are likely issues in some client demographics for the next twenty years and also for practitioners. In considering students, and mature students, PACFA is hopeful working with educational institutions will encourage membership. Free professional insurance is provided to student members and is envisaged as facilitating a professional ethos and setting the model for conduct.

PACFA's position presents as necessarily addressed to securing professional recognition and there is little to suggest it has the bandwidth to contemplate very different ways of working. This delimits scope for investment and development of contemporary theory and practice to advance the discipline and exposes practitioners to being sidelined as they are not immersed in, or positioned for change. No easy answers appear however coalitions or strategic alliances with educators and employers may provide options for building capabilities giving counsellors better means for successful practice.

It signals value in alerting mature learners during the education cycle to the importance of familiarising themselves with technology and contemporary delivery – potentially from cross-skilling with other helping professions. It intimates for investing time and effort in their association to resource commitment to address these issues.

The AASW interview with Cindy Smith, provided a sense of the organisation and its priorities. Ms Smith shared AASW was driven from the “ground up” with branches in each state feeding through to a centralised national organisation. Volunteers manage the branches with some support from policy advisers in the national body.

The “grass roots” flavour was emphasised with AASW's agenda reflecting key concerns in each state. Domestic violence is a central issue for Victoria given a recent Royal Commission, whilst in South Australia - as a response to a coroner's report - attention is on training and supervision particularly for recent practitioners. Issues with an Australia-wide orientation are actively facilitated by national office – including operation of

the National Disability Insurance Scheme (NDIS)³⁵ and issues of homelessness and housing, and domestic violence. Priorities will vary depending upon government and community.

AASW has some 10,500 members broadly aged 41-60 years and residing principally in metropolitan areas of Victoria, Queensland, NSW and South Australia. Employment is predominantly in non-government entities. Membership cost is modest - full fee is \$697³⁶, \$188 for new graduates and \$51 for students including various Liability and Professional Indemnity Insurances. As such there are limits on the Association's resources.

Technology's role within AASW is essentially facilitating on-going professional education and to a lesser extent assisting with practice management and compliance. The archetype for service delivery advocated is heavily embedded in a psycho-social model where the relationship between social worker and service user is the key – here technology is a tool of practice that may have increasing value. Ms Smith outlined Applications having potential in identifying and assessing self-harm behaviours e.g. substituting for old techniques using physical devices and journaling. But exploring and employing technologies deeply into practice is not presently an area of focus.

Potentially, innovation driven from within organisations may mean less visibility of technology to AASW. Ms Smith indicated an anecdotal view that more innovation occurred in private practice commensurate with generating and undertaking work, and building profile. An interesting observation is that block funding for government programs arguably creates fewer demands for innovation given contracts detail very specifically funds' deployment. Further, the average AASW member's age profile was less likely to be

³⁵ NDIS is intended to support a better life for Australians with significant and permanent disability and their families and carers. Implementation is via the independent, statutory National Disability Insurance Agency (NDIA). <https://www.ndis.gov.au/about-us.html>

³⁶ Fee Schedule 2017/18 <https://www.aasw.asn.au/membership-information/fee-structure>

associated with cutting edge technological take-up and innovation according to Ms Smith, notwithstanding her view that there is a continuum of capability amongst members.

Ms Smith observed the social work degree is quite generic and demanding (approx.1,000 placement hours in the four year under-graduate degree) with a wide remit:

It covers political, legal and social areas, it covers both micro and macro in terms of understanding the structural and systemic issues. But also working with the micro around how do you do an assessment around family violence, how do you do an assessment around suicide intervention – you know – how you do those specific things and then how do you collate what you've seen in research and then advocate that up through social policy.

So ... the expectation is that social workers do work on both the meta and micro levels. ... we work really well within teams because we do a lot of group work type framing as well, and facilitation and group work theory within our degrees where there are elements of community, elements multi-disciplinary wherever that might be - whether in emergency-type processes. We are trained in triage, we are trained in assessment trained in risk analysis (and) around prioritising. So for me, and I am probably a little biased here, it is one of those degrees that can be quite generic and then have that cross-disciplinary sort of approach.

Post-graduation, Ms Smith stated there will commonly be additional learning to work in a particular field e.g. aged care. Course breadth is seen as equipping graduates for a wide variety of roles including in new multi-disciplinary areas as yet unknown. This is a substantial benefit, however, translation to prospective members of the profession is not necessarily obvious.

Ms Smith's insights indicate a focus directed substantively to contributing to critical policy issues e.g. NDIS which reinforce the profession's value. Another major activity is CPD and supervision to support members' effectiveness. The latitude for extending efforts in any significant way to new models of delivery based in technology appears resource constrained. Current delivery models are viewed as effective and consistent with a philosophy or practice base emphasising a client-practitioner relationship.

The impetus for change to deal with issues in a differently scaled fashion such as to increase reach, lower cost, lessen dependence upon resource-intense delivery evidenced in other professions and sectors is not evident. Noting social workers' potential

to contribute, it could be construed as an issue of concern – specifically being slow to direct technology's integration and support of the profession's underlying philosophy. It defers investment and educational responses to the detriment of all stakeholders. Constrained resources can be an argument for seeking partners via education institutions, government and non-government social service providers and potentially other disciplines. There would seem merit in surveying the landscape and understanding what cogent, technologically enhanced or assisted changes might enhance current approaches to the complex problems facing practitioners.

For AASW, and mature learners, participation in important social issues is laudable – underscoring the profession's profile and affirming contribution. However if solutions propounded are primarily based in existing ways of working it may narrow options for involvement; while opening the door to new players able to bring innovative, more scalable offerings commensurate with society's move to deeper engagement with technology and hyper-connectivity. Early steps would be to request curricula give exposure to technology application in the social sciences and concurrently making this available via CPD. Gaining familiarity and comfort would be steps on a pathway to quality involvement and outcomes.

5.4 Contribution to Knowledge

The research has sought to explicate knowledge pertaining to the two key questions: are mature learners being adequately equipped for a rapidly changing world in terms of their mindsets and skills? And how is their learning engagement impacting sense of self and ability to navigate the complex world of work? Additionally attention was drawn to elements in the learning process designated as supporting mature students.

The analysis elicited five themes as bearing on the questions (Figure 8). Significantly for this group motivation featured as having control over where and how they direct their learning and future engagement. This underscores the importance of being sensitive to the decisioning process to assist match those motivations – often having deep seated origins - with what realistically might be a future career. Linked to this was the importance placed on giving back and utilising lived experiences. Mature learners showed readiness to harness their transitions and trajectories holistically.

The learning experience led to significant self-awareness and self-assurance - beyond just confidence. Views on ability to exercise choice, to take greater control in multiple situations beyond learning alone and to play effectively and differently (because of their emergent experiences) in the “helping professions” were important insights. It reinforces value in fostering immersion in learning by mature workers and adapting that to complement their experiences alongside the requirements of new spheres of employment.

Noteworthy, was a receptivity through the learning process to challenging beliefs, engaging in self-reflection and translating this into constructive views about self and agency – particularly capacity to navigate an uncertain world. This strongly challenges scepticism of mature learners’ capacities to take on refreshed identities, to persevere and make significant contributions.

The research disputes stereotypes which portray mature workers as suited only to ‘vocationalised’ learning acquisition and to work extension by virtue of less hours and making healthy life style changes. For instance, The Ageing Population Report (2013) comments “older learners may be avoiding formal qualifications due to aged-based stereotypes about learning in formal settings” (Thompson, Griffin and Bowman, 2013, p. 14). Or PwC (2016) - The Golden Age Report which lauds wellness and healthy lifestyle programs for older workers or features their value as customer empathy because of lived experiences. The perspective reinforced is of a group which has limited capacities, restricted views and requires special working arrangements. Such elements may have a place, but presenting as mainstream buttresses misconceptions about capacity and capability. The issue raised is how stakeholders can assist mature learners and workers to use their liminal status to

.. understand their own biographies within the social world, but also to imagine their futures differently, and develop resources that allow them to shape as well as cope with change (Field and Lynch, 2015, p. 16).

The research showed mature learners lacked fluency with sector and work disruption occurring globally and potential impacts on chosen professions and how and if jobs will exist. Life experiences and the ‘linear’ education process were over-represented in their world view suggesting a level of structure, stability and repeatability – notwithstanding evidence it is under threat. None had received information about future

employment in selecting courses, with family and social circle opinions or experiences cited as most influential.

Taking on studies and being able to draw on experiences both institutional and social suggest a valuable capability for biographicity after Alheit (1992, 2002) - a facility to absorb new knowledge and integrate that to create meaning and capability to adapt to a changing world. Self-assurance is strengthened by successfully mastering new learning. But what emerges, from the mature students' disclosures, may prove inadequate - or more challenging than necessary, if there is not congruency with the emerging world where they seek employment and/or to contribute.

The 'three boxes' view remains influential, intimating that with learning the employment prospect is relatively positive. The 'life course' paradigm denotes the historic era and place in which one's life is set will be key to understanding the individual. But what is apparent for this group is how localised or familiar understandings dominate decisioning.

In terms of globalisation and technology there was a confident belief that post-study roles would exist comparable with traditional models of professional service delivery. Indicators of disruption - evidenced in other sectors - were firmly rejected, implying a narrow conception of the way disciplines and work will unfold. This recommends mature learners be encouraged to be more speculative and creative in their conceptions, and demonstrate capacity for innovation and optimism.

The research reveals the importance of providing quality information early in the decisioning process to allow for more conscious and deliberate education to address a changing work environment. Ideally this permeates the learning process so students contemplate changed ways of working while harnessing resilience and self-assurance to construct an outlook which is appropriately futuristic. The research indicates - as per the 'life cycle' paradigm's emphasis on the criticality of transitions - that individuals derive considerable benefit in personal and professional identity by how they engage in these transformative passages.

Value is perceived in providing scenarios for mature learners to test and experiment with, to secure congruency with motivations and life experiences while giving

an appreciation of the future world of work. Where real world experiences and practicums were integrated into learning, these were valued as giving opportunities to enmesh life time knowledge and practice derived from institutional experiences (especially employment) and social milieu. Other elements emphasised included having educators who valued their life experience³⁷.

The professions, employers, policy makers and educators can facilitate successful immersion of mature learners/workers by combining efforts to expose prospective skills and capabilities and making these relevantly accessible (Timmins, Hall, Fesko and Migloire, 2011). Their social and institutional settings do not currently convey the pace of change and disruption, and identifying tailored communication channels will be important. Manyika et al (2017) reference the unprecedented challenge to retrain 'mid-career' individuals to shift occupations and learn new skills. Understanding some of the nuances and issues will be critical to addressing that challenge and optimising this important cohort's multi-layered contribution.

³⁷ Elements including flexible modes and timetables, being treated as an individual, cohorts with diverse backgrounds and ages were indicated as positive to learning but are not in themselves new.

CHAPTER 6

DISCUSSION, LIMITATIONS AND IMPLICATIONS FOR PRACTICE

The Chapter summarises the findings with emphasis on insights of potential value in contemporary support of mature students, including a plan for impact. It considers the research's limitations and points to areas for further investigation to address these and provide insights for meeting the needs of mature learners.

6.1 Summary

The research reveals risks to mature students managing disruptive change in Social Work, Psychology and Counselling and Psychotherapy disciplines notwithstanding sustained efforts to gain knowledge, and building of mindsets and capabilities. Their more limited time frames for learning acquisition and application raise the stakes for return on investment – financial, social and psychological. The picture presented is complex as a number of findings show:

- Mature students often have altruistic and very personal motivations: to make a difference; to use knowledge of problems faced within familial and social circles; or to take charge of their learning after being unable to access education or to enter these sectors. (McCune, Hounsell, Christie, Cree and Tett, 2010, Scanlon, 2001). This overlayed constructions of the future with a pragmatic focus seeking active involvement which their educational involvement was anticipated to deliver.
- A significant number interpreted their skills and capabilities, past experiences as equipping them for the professions with negligible guidance and/or limited awareness of how the disciplines work in practice, nor how they might evolve (Handel, 2012, Kasriel, 2017).
- Mature students showed a confidence in linear or structured models model in terms of progression in their chosen fields and obtaining the requisite learning. Further this translated into positive views of how on-going professional development would occur and be supportive. Even for students with transitory-type education and work experiences and managing current tertiary studies, there was negligible sense conveyed that different patterns might be important

or viable into the future. The structured model of education-work-retirement still resonates as a predominant archetype and appears reinforced by the professions (Collin, 2011, Johnson, Kawachi and Lewis, 2009).

- Overwhelmingly mature students were confident regarding ability to secure use of their skills. They believed demand for 'helping profession' services employing current delivery models would increase, with underlying suppositions of public funding. Changed work models and the need to negotiate employment and issues of age-discrimination appear under-recognised (Bowman, McGann, Kimberley and Biggs, 2017, Carlaw, Oxley, Walker, Thoms and Nuth, 2012, Livingstone, 2012, Robertson, 2014)
- Acceptance of roles being changed radically by technology was rejected (Brown, Lauder and Ashton, 2008, Peterson and Murphy, 2010). Technology was assigned chiefly to facilitation functions rather than a potential replacement, substitute or dynamic modifier of service provision.

Researching requisites for the successful operation of modern organisations, Hill, Brandeau, Truelove and Lineback (2014) emphasise continuous innovation and leadership which fosters communities willing to, and capable of, operating autonomously. This necessitates shared purpose and values and ways of engaging that facilitate discovery-driven learning, collaboration and integrated decision making. They note -

Values influence individual and collective thought and action. They vary from community to community, but we found four that truly innovative organizations all embrace - bold ambition, responsibility to the community, collaboration, and learning. (p.99)

The latter three presented positively among this study's mature learners and while ambition was possibly a more tempered attribute, it reinforces the value from mature individuals' deep involvement in modern workforces.

However, inadequate knowledge as to how change may impact the "helping professions" jeopardises quality outcomes for mature students. This includes lack of skills and capabilities and the means for conceiving acquisition of different or complementary skills to remain viable contributors. Appreciation of what might be necessary to re-invest in careers for sustainable employment was less evident. Unaddressed, the prospect arises of

mature students being “set up” to fail with loss of esteem, capacity to work, isolation and disengagement (Price, 2015).

The counter argument is mature students having lived through change could not be unaware of impacts across all aspects of society – including rapid, technology-induced changes: computerisation, automation, the internet and global connectedness. As such should the expectation be that they will accommodate on-going change? Unfortunately, the research indicates little appreciation of the likely impact to their professions and the world of work; and that absence carries risk as to how to adapt.

These beliefs are compounded given education and professional processes in play appear hesitant to contemplate such change - whether via curricula or stepped out patterns of progression and accreditation. This cohort's deep investment means failure to canvass different skills and work scenarios is deleterious to optimal use of educational resources and the community's contributions to funding the same (Broek and Hake, 2012). None of this appears in anyway deliberate.

Educators and professions were committed and often working within resource constraints and long-standing regulatory and accreditation paradigms. But without attention to the potential ramifications and consideration and action, the risks to mature students of practising their new disciplines sustainably is open to conjecture. If biographicity is accepted as a necessary competency then mature students acquiring those in a sustainable way is problematic with current models.

Recent reports advocating for mature Australians remaining employed (Adult Learning Australia, 2018, AHRC, 2016, Centre for Future Work, 2018, Centre for Workplace Leadership, 2015, PwC, 2016) leave unaddressed the effective positioning of this group to conceptualise and respond to wholesale change. Recommendations for adaptation tend to short term and constrained activity making them vulnerable to marginalised roles or exiting the workforce because they lack a comprehensive picture of the world of work and what and how to play successfully and sustainably.

By contrast Vuori, Blonk and Price (2015) advocate “preventative career interventions implemented at various transitional phases of the working career” (p.295) to assist de-risk potentially negative outcomes. This includes being able to rehearse possible selves consistent with imagined different futures Stevenson, and Clegg (2013). A deeper

appreciation of capability geared to sustained engagement would seem necessary, if support for mature employment is not to read as window dressing.

More positively the research showed mature students through their learning engagement -

- revealed a capacity for introspection and interweaving personal, social and work experiences into studies bringing levels of discernment to the learning process;
- are highly committed to learning and new professions;
- demonstrate levels of resilience and energy; and
- are building self-assurance in their agency to navigate the world of work, and in sense of self to address and manage the future.

These signify the value of access and immersion in education for mature workers - providing opportunities to be equipped and confident to undertake new roles and enter changing areas of employment demand.

There is cause for optimism. Given better understanding of issues facing the sector, mature students could prove well able to accommodate different ways of learning and working. Robbins and Singer (2014) comment the world has in many respects met Marshall McLuhan's (1964) idea of the 'global village' with social media connecting us in ways not possible previously. This phenomena argues for the need to adapt to

... evolving human interaction in the context of technology that is constantly evolving itself. (Lopez, 2012 p.36 cited in Robbins and Singer, 2014 p.389)

Early introduction in conjunction with responsive curricula and positive messages from the professions can position mature learners for effective navigation of future work (Bunney, Sharplin and Howitt, 2015). The students in successfully managing studies built agency and identity - a solid platform to explore options for understanding disciplines under different scenarios and translating skills effectively.

It is to be acknowledged that educational institutions are grappling with how to define and foster graduate attributes that meet students' and contemporary society's needs. (Teichler, 2015). Barrie (2012) reflects the absence of frameworks leads to a lack of congruity in the processes for selecting and working to secure ideal attributes. He

shares some Australian universities were seeking to define these as scholarship, global citizenship and lifelong learning. Regular interrogation of how the philosophy and process for achieving graduate attributes links to a changing world would seem a valuable adjunct to this critical aspect of education.

Barradell, Barrie and Pesenta (2018) state the messiness of the 'real-world' demands graduates develop acumen and agency to manage both uncertainty and contestability (p.271). Mature students will be more successful - the research suggests - if they are exposed to and equipped for elements which will change their disciplines and work. Assumptions they will acquire it by osmosis leave them vulnerable but more concerning are views they be directed to roles that pigeon-hole them to less demanding work ignoring their resilience, experiences and intellectual capacities.

Mature students awareness of the Professional Associations is modest. Recognition encompasses providing ethics and standards, quality and CPD for on-going accreditation. The lack of deep rapport is surprising given the rich resources and low cost membership. Communicating benefits more effectively would suggest substantial opportunities for relevance and presence, cementing stronger bases. The literature indicates strong demand for skills in understanding human behaviour together with creative, strategic and interrogative capabilities and working in cross-functional teams across the globe, in new industries or as older ones are "reinvented". Advocating the disciplines' contribution in contemporary and emerging employment would be a valuable adjunct in the face of potentially uncertain futures.

The cohort of mature students valued the College's flexibility and support. Small classes appealed together with not being treated differently because of age and being incorporated equally into the student milieu. Classes and learning offerings facilitating return to study were favourably regarded along with access to insights and help from senior students with recent on the ground experience. Flexible delivery options and understanding of work, family and study demands were raised as important.

Mature students indicated sensitivity to education's cost and employment was frequently essential for repayment. Accompanying importance was placed on attaining valuable practical experience to strengthen employer appeal. Assistance with obtaining employment post-course was sought, reinforcing the criticality options for joining the

workforce – both short and medium term, given the large financial and personal investment.

The mapping of workforce capability and where and how demand for skills will unfold under the impact of technology, the knowledge economy and globalisation is yet to receive substantial investment in Australia. Neal and McLaughlin (2009) in their review of some of the out-takings of government reports and the elite policy makers involved observe that

Policy making processes are by definition plural in nature in that they involve a range of actors and stakeholders, who function as a 'policy community'. (p.691).

If processes exclude key actors there is a risk of poor outcomes. Gahan, Harbridge, Healy and Williams (2016) note limited understanding of what workers are seeking in making later career transitions and how they may seek to 'negotiate shifts in their 'social identities' to participate (p.520). A more holistic policy framework that includes quality information re careers and education, access to capability maintenance and attention to issues of discrimination appear apposite to maintain person–job fit over extended working lives.

The research makes the case for ensuring mature learners' voices are sought and appropriately reflected in recommendations.

Bradley, Hendrickson, Bucifal, Bulic, Balaguer, et al. (2016) state the nation's skills base has grown, but contend "innovation-active businesses report high usage and shortages/deficiencies in all skill types" (p.77). Their research focuses on younger age groups in supplying skill sets and in the global competition for skills. But Vickberg and Christfort (2017) note benefits to be derived from cognitive diversity, "ranging from increased creativity and innovation to improved decision making" (p.52) to which can be added life and work experiences – making the case for better advocacy for mature individuals (Bowman, McGann, Kimberley and Biggs, 2017).

Assisting the professions with innovation is potentially being stultified. Government funding models by setting specific requirements for conducting activity – albeit with motives of transparency and probity, can inadvertently raise difficulties in developing and articulating different approaches, potentially constraining richer involvement by mature individuals.

The study showed mature students engaging in education without information regarding prospects of sustained employment. Acknowledging upheavals from technology and issues of changing workforce composition, CEDEFOP (2014) proposed a model of learning to support transitions. This featured addressing learner identity or 'learning as becoming' (Wenger, 2000, 2010) and personal characteristics such as self-belief and career orientation; providing learning and skills development encompassing cognitive, emotional, practical and relational or interactions and participation; and addressing structures in which learning occurs including life-long guidance to facilitate opportunity supported by funding (Borbély-Pecze and Hutchinson, 2014). These accord with the research's insights for mature individuals' current and future needs to be successful, active work participants.

Exerting coherent agency on trajectories for mature individuals can be difficult. Fournier, Zimmermann and Gauthier (2010) point to changing fields or work, issues of occupational networks and resources and the micro- and macro- social contexts including sector volatility and ageism frequently mean implementation of mid- and long-term strategies are challenging. Broad stakeholder engagement - education institutions, professions, employers and policy makers - is mandatory if mature individuals are to achieve sustained benefits from their learning. The research indicates there is scope for valuable outcomes through addressing these issues.

6.2 Plan for Impact

The researcher received support from the College, educators, professional associations and it is appropriate to provide insights for their consideration. Discussions about the research with a wide variety of individuals in the education sector and business have led to expressions of interest in the work and potential for wider application. Recognising the doctoral program's pragmatic focus and under-taking research with relevance and interest for my field of work sharing via the following groups is planned:

- The College: a presentation to give insight into the issues mature learners face to assist better accommodate needs including responding to impacts from technological change and sector disruption. This would be extended to the

organisation's Learning & Teaching Group which has expressed interest in the findings.

- Australian Council for Private Education & Training (ACPET): this industry association is active in disseminating education insights through conferences and lobbying across industry and government
- Business Council of Australia and Committee for the Economic Development of Australia: These influential bodies on economic policy have longstanding interest in education and employment issues for mature workers. They would be open to the provision of actionable findings.
- National Centre for Vocational Education Research (NCVER): this body has an active program of disseminating papers and conferences on topics promoting enhancements to the education of diverse groups.

Other avenues include conference papers, journal articles and interactions with educators and bodies including internationally e.g. the European Society for Research on the Education of Adults – who advocate for insights into issues facing adult learners.

6.3 Limitations and Recommendations for Future Research

The research has been exploratory; seeking to complement the literature on realising access and success by mature individuals in their learning by explicating views on how that engagement impacts sense of self and agency and informs their views about navigating the world of work. The research gave regard to literature on the macro factors that are changing the outlook for work noting evidence of accountability for that falling increasingly to the individual, raising multiple concerns including cost access to capability maintenance and uncertain employment and potential marginalisation and precarity.

Critical issues emerged from the cohort studied:

- the decisioning process for learning engagement is not well informed;
- awareness of sectoral change is low despite ubiquitous evidence of the impact of technology-led change including in daily lives;
- linear views of education-work-retire paradigms persist which may be misguided in a rapidly changing world of work;

- mature individuals have rich experiences, energy and commitment which are variably received in the workplace potentially under-leveraging their capabilities and contributions; and
- the professions and educational institutions seem unevenly aware or stretched in catering for mature learners in a world of disruption.

These raise issues for further research:

- Deeper exploration of key themes by follow-up interviews across mature students' learning cycles and into work to ascertain whether and how perspectives and priorities shift.
- Further qualitative work to illuminate why certain paths are taken or neglected by different cohorts of mature learners/workers (Heinz, 2016) particularly to investigate trajectories and transitions.
- Expansion to more disciplines for comparative insights regarding views held, other factors influencing perspectives and options for enhanced support.
- Institutional extension to consider the influence of variable learning approaches.
- Refinement to address specifically: socio-demographic and education levels: past employment experience; gender and personality type and allow statistical analysis to derive indications of importance.

The qualitative methodology used provided rich descriptive analysis but does not establish causal or predictive relationships which may enhance effective support (Fournier, Zimmermann and Cauthier, 2011).

A further criticism is the research is conducted on static samples, it provides a snapshot of experiences (Taylor and House, 2010). Longitudinal studies reviewing post-learning outcomes including career changing; and understanding the sustainability of the education experience in employment would greatly expand insight.

Laub (2016) speaking to the value of 'life course' theory in public policy argues revealing people in context creates better insights and facilitates stronger research. The research endeavoured to expose mature students' real world experiences and views but

would be complemented by extension to educators – to understand how they experience these students and respond to their needs. The role of professional associations complemented by understanding employer responses - particularly to career pathing for mature workers and facilitating changed models of work – merits deeper exploration.

Undertaking quantitative and mixed methods analysis could assist scale the importance and impact of the specific issues raised which is outside this exploratory undertaking to indicate and support better stakeholder responses.

6.4 Conclusion

The key asset in the survival and progress of contemporary society Hake (1999) observed may be how individuals make use of learning and so reconstruct themselves to address modern challenges. This research has sought to explore the contribution mature individuals might bring in consequence of their learning engagement. The exploratory study advocates for their being encouraged and informed to take on capabilities; provided with transparent information about future work and sector scenarios to facilitate their engagement; and assisted to bring their rich life histories to bear on contemporary society's challenges.

The benefits from securing their effective engagement are likely to be manifold. An inclusive workforce will be more agile and better able to address the momentous changes being wrought by technology in an interconnected world. This benefits all stakeholders - government, employers, professions and educators, society and most importantly the individuals themselves whether in terms of self-esteem and regard, through to financial security and capacity to be socially included and their contributions manifest.

REFERENCES

- Abbosh, O., Savic, V. and Moore, M. (2018) How likely is your industry to be disrupted? This 2x2 matrix will tell you. 29 January 2018 *Harvard Business Review* [Online] Retrieved 5 June 2018 from <https://hbr.org/2018/01/how-likely-is-your-industry-to-be-disrupted-this-2x2-matrix-will-tell-you>
- Adult Learning Australia. (2018). *Learning changes lives*. National Lifelong Learning Summit, 7 April, 2018. Adult Learning Australia, Melbourne, Victoria: Retrieved 3 September 2018 from <https://ala.asn.au/wp-content/uploads/2018/02/YOLL-summit-discussion-paper.pdf>
- Ahlbäck, K., Fahrbach, C., Murarka, M. and Salo, O. (2017). How to create an agile organization. *McKinsey Survey*. Retrieved 20 November 2017 from <https://www.mckinsey.com/business-functions/organization/our-insights/how-to-create-an-agile-organization>
- Alheit, P. and Dausien, B. (2002). The “Double-Face” of lifelong learning: two analytical perspectives on a “Silent Revolution”. *Studies in the Education of Adults* 34(1): 3-22. Retrieved 6 June 2016 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?sid=dc6bfe99-aaac-4e4f-9b1f-6e1f465d5626%40sessionmgr103&vid=12&hid=111&bdata=JnNpdGU9ZWRzLWxpdmUm c2NvcGU9c2l0ZQ%3d%3d#AN=EJ650006&db=eric>
- Atluri, V., Cordina, J., Mango, P., Rao, S. and Velamoor, S. (2016) . *How tech-enabled consumers are reordering the healthcare landscape*. McKinsey & company. Retrieved 15 June 2017 from <http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/how-tech-enabled-consumers-are-reordering-the-healthcare-landscape>
- Alvesson, M. (2011). *Interpreting Interviews*. (e-book) London: Sage. Retrieved 22 May 2018 from <http://methods.sagepub.com.liverpool.idm.oclc.org/book/interpreting-interviews/n2.xml>
- Alwin, D.F. (2012). Integrating varieties of life course concepts. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 67(2): 206-220
- Anderson, K.T. (2011). *Linking adult learner satisfaction with retention: The role of background characteristics, academic characteristics, and satisfaction upon retention*. Ph.D. thesis. Iowa State University. [Online]. Retrieved 7 February 2016 from <http://lib.dr.iastate.edu/etd/12066/>

Andreasson, K. (2009). *Global education20/20*. London: Economist Intelligence Unit
https://www.eiuperspectives.economist.com/sites/default/files/Cisco_Education_2020.pdf

Arthur, W.B. (2017). Where is technology taking the economy? *McKinsey Quarterly*, October. Retrieved 17 October 2017 from <https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/where-is-technology-taking-the-economy?cid=other-eml-alt-mkq-mck-oth-1710&hlkid=3be4a3e93bc249c1a8e1e0d20dacd872&hctky=9960746&hdpid=8f2c9ddf-cb14-445c-a905-35bb42206f36>

Australia: Australian Bureau of Statistics. (2001). *Australian social trends 2001*. Canberra: Australian Bureau of Statistics. Retrieved 27 February 2017 from
[http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/6AB30EFAC93E3F5CCA256A630006EA93/\\$File/41020_2001.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/6AB30EFAC93E3F5CCA256A630006EA93/$File/41020_2001.pdf)

Australia. Australian Bureau of Statistics. (2002). *Measuring a knowledge-based economy and society*. Discussion Paper 1375 Canberra: Australian Bureau of Statistics. Retrieved 17 January 2016 from
[http://www.ausstats.abs.gov.au/ausstats/free.nsf/0/4F8E59034103E624CA256C230007DC05/\\$File/13750_aug%202002.pdf](http://www.ausstats.abs.gov.au/ausstats/free.nsf/0/4F8E59034103E624CA256C230007DC05/$File/13750_aug%202002.pdf)

Australia. Australian Bureau of Statistics. (2012). *Forms of Employment*. Canberra: Australian Bureau of Statistics. Retrieved 4 March 2017 from
<http://www.abs.gov.au/ausstats/abs@.nsf/Previousproducts/6359.0Main%20Features3November%202011?opendocument&tabname=Summary&prodno=6359.0&issue=November%202011&num=&view=>

Australia. Australian Bureau of Statistics. (2013). *Labour Statistics: Concepts, Sources and Methods*. Canberra: Australian Bureau of Statistics. Retrieved 22 February, 2017 from
<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/6102.0.55.001Chapter422013>

Australia. Australian Bureau of Statistics. (2016). Analysis of trends in the Australian labour market. *Annual Report 2015-16*. Canberra: Australian Bureau of Statistics. Retrieved 22 November 2017 from <https://www.employment.gov.au/annual-report-2016/analysis-trends-australian-labour-market>

Australia. Australian Bureau of Statistics (2018). Trends in the labour income share in Australia. Estimates of Industry Multifactor Productivity. 2016-17. Canberra: Australian Bureau of Statistics. Retrieved 19 June 2018 from
<http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/5260.0.55.002Feature%20Article32016-17?opendocument&tabname=Summary&prodno=5260.0.55.002&issue=2016-17&num=&view=>

Australia. Centrelink. (2016). *Age pension eligibility*. Department of Human Services. Retrieved 27 February 2016 from <https://www.humanservices.gov.au/customer/themes/older-australians>

Australia. Department of Education and Training (2015). *Australian Blueprint for Career Development*. 11 December. Retrieved 19 June 2018 from <https://www.education.gov.au/australian-blueprint-career-development>

Australia. Department of Employment. (2015). *Employment Outlook to November 2019*. Labour Market Research and Analysis Branch. Retrieved 11 June 2016 from <https://cica.org.au/wp-content/uploads/Employment-Outlook-to-November-2019.pdf>

Australia. Department of Employment (2016). *Australian Jobs 2016*. Health care and social assistance (website) Retrieved 22 June 2017 from <https://australianjobs.employment.gov.au/jobs-industry/health-care-and-social-assistance>

Australia. Federal Register of Legislation. Age Discrimination Act 2004 No. 68, 2004. Compilation No. 34. Retrieved 8 February 2017 from <https://www.legislation.gov.au/Details/C2016C00746>

Australia. Australian Human Rights Commission. *A quick guide to Australian discrimination laws*. (nd). Retrieved 8 February 2017 from <https://www.humanrights.gov.au/employers/good-practice-good-business-factsheets/quick-guide-australian-discrimination-laws>

Australia. Australian Human Rights Commission. (2016). *A qualitative study of employment discrimination against older Australians*. EY Sweeney Ref No. 25397 6 April 2016. Sydney. Retrieved 13 February 2017 from <https://www.humanrights.gov.au/our-work/age-discrimination/publications/qualitative-study-employment-discrimination-against-older>

Australia. Australian Human Rights Commission (2016). *Willing to Work*. Sydney. Retrieved 13 February 2016 from https://www.humanrights.gov.au/sites/default/files/document/publication/WTW_2016_Full_Report_AHRC_ac.pdf

Australia. Department of Industry, Innovation and Science (2017). *Australian Industry Report, 2016*. Retrieved 21 June 2017 from <https://industry.gov.au/Office-of-the-Chief-Economist/Publications/AustralianIndustryReport/assets/Australian-Industry-Report-2016.pdf>

Australia. Productivity Commission. (2013). *An ageing Australia: Preparing for the Future*. P.178, figure. Retrieved 27 February 2016 from <http://www.pc.gov.au/research/completed/ageing-australia>

Australia. Productivity Commission (2017). *Introducing Competition and Informed User Choice into Human Services: Reforms to Human Services*. Draft Report June 2017. Retrieved 21 June 2017 from <http://www.pc.gov.au/inquiries/current/human-services/reforms/draft/human-services-reforms-draft.pdf>

Australia. Australian Qualifications Framework Council (2013). *Australian Qualifications Framework*. Second Edition. January. Australian Qualifications Framework Council: South Australia Retrieved 11 June 2016 from <http://www.aqf.edu.au/wp-content/uploads/2013/05/AQF-2nd-Edition-January-2013.pdf>

Australia. Study Assist. Retrieved 20 April 2017 from <http://studyassist.gov.au/sites/studyassist/help-payingmyfees/fee-help/pages/fee-help->

Australia. The Treasury. (2010). *Australia's future tax system*. Retrieved 2 March 2017 from http://taxreview.treasury.gov.au/content/downloads/final_report_part_1/00_AFTS_final_report_consolidated.pdf

Australia. The Treasury. (2015). *2015 Intergenerational Report Australia in 2055*. Retrieved 30 January 2016 from http://www.treasury.gov.au/~media/Treasury/Publications%20and%20Media/Publications/2015/2015%20Intergenerational%20Report/Downloads/PDF/2015_IGR.ashx

Australian Industry Group. (2016). *Workforce Development Needs Survey Report*. Retrieved 18 May 2017 from http://cdn.aigroup.com.au/Reports/2016/15396_skills_survey_report_mt_edits_2.pdf

Australian Institute of Company Directors. (2016). *Directions 2016: Current issues and challenges facing Australian directors and boards*. Retrieved 21 June 2017 from <http://aicd.companydirectors.com.au/~media/cd2/resources/advocacy/research/pdf/directions-2016-issues-challenges-australia-directors-boards.ashx>

Autor, D. (2011). The Polarization of job opportunities in the US labor market: Implications for Employment and Earnings. *Community Investments* 23(2) 11-16. Retrieved 11 April 2016 from <https://core.ac.uk/download/files/153/6361669.pdf>

Asia-Pacific Economic Cooperation. (2000). *Towards knowledge-based economies in APEC*. Retrieved 17 January 2016 from http://publications.apec.org/publication-detail.php?pub_id=675

Aspin, D.N., Chapman, J., Evans, K. and Bagnall, R. (eds.) (2012). *Second International Handbook of Lifelong Learning*. Dordrecht: Springer Netherlands. Retrieved 12 December 2016 from <http://bit.ly/2gqEtq1>

Bagnall, R.G. (2007). The ethics of lifelong learning and its implications for values education. In Aspin, D. N., Chapman, J. D., and Bagnall, R. G. (eds.) *Values Education & Lifelong Learning* (pp 61-79). Dordrecht: Springer International Publishing AG. Retrieved 23 June 2018 from <https://eds-a-ebSCOhost-com.liverpool.idm.oclc.org/eds/detail/detail?vid=5&sid=e346be81-cf6a-4909-970d-666b279b4f85%40sessionmgr4006&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=33898248&db=edo>

Ballantyne, J., Madden, T. and Todd, N. (2009). Gauging the attitudes of non-traditional students at a new campus: an Australian case study. *Journal of Higher Education Policy and Management*, 31(4), 301–313. <http://www.informaworld.com>

Banerji, A., Cunningham, W., Fiszbein, A., King, E., Patrinos, H., Robalino, D. and Tan, J-P. (2010). *Stepping up Skills: For more jobs and higher productivity*. Washington: The World Bank. Retrieved 1 May 2016 from http://www.skillsforemployment.org/wcmtest4/groups/skills/documents/skpcontent/mwdf/mday/~edisp/fm11g_002234.pdf

Barbour, R. (2008). *Introducing Qualitative Research*. [e-book] Retrieved 26 June 2018 from London: Sage from <http://methods.sagepub.com.liverpool.idm.oclc.org/book/introducing-qualitative-research/d8.xml>

Barradell, S., Barrie, S. and Peseta, T. (2018) Ways of thinking and practising: Highlighting the complexities of higher education curriculum, *Innovations in Education and Teaching International*, 55(3), 266-275. Retrieved 3 September 2018 from <https://www.tandfonline-com.liverpool.idm.oclc.org/doi/pdf/10.1080/14703297.2017.1372299>

Barrie, S.C. (2012). A research-based approach to generic graduate attributes policy, *Higher Education Research & Development*, 31(1), 79-92, <http://www.tandfonline-com.liverpool.idm.oclc.org/doi/pdf/10.1080/07294360.2012.642842>

Barros, R. (2012). From lifelong education to lifelong learning. Discussion of some effects of today's neoliberal policies. *European Journal for Research on the Education and Learning of Adults* 3(2) 119-134. Retrieved 21 November 2016 from http://www.pedocs.de/volltexte/2012/6741/pdf/RELA_2012_2_Barros_From_lifelong_education.pdf

Bauman, Z. (2003). Educational Challenges of the liquid-modern era. *Diogenes*, 50(1): 15-26. Retrieved 30 January 2016 from <http://sagepub.com> at University of Liverpool.

Barsh, J., Brown, L. and Kian, K. (2016). Millennials: Burden, blessing or both? *McKinsey Quarterly*. February. Retrieved 28 February 2016 from <http://www.mckinsey.com/business-functions/organization/our-insights/millennials-burden-blessing-or-both>

Baruch, Y. (2004). Transforming careers: from linear to multidirectional career paths. Organizational and individual perspectives. *Career Development International*, 9(1), 58 – 73. Retrieved 15 February 2017 from <http://www.emeraldinsight.com.liverpool.idm.oclc.org/doi/pdfplus/10.1108/13620430410518147>

Barta, T. and Barwise, P. (2017). Why effective leaders must manage up, down, and sideways. *McKinsey Quarterly*, April 2017. Retrieved 27 June 2017 from <http://www.mckinsey.com/global-themes/leadership/why-effective-leaders-must-manage-up-down-and-sideways?cid=other-eml-alt-mkq-mck-oth-1706&hlkid=4fe37e77d2454dbb92e90fbe6b74e2c3&hctky=9960746&hdpid=2d55a667-fc2a-4654-b9da-71367cde6f62>

Beaudry, P., Green, D.A. and Sand, B.M. (2016). The great reversal in the demand for skill and cognitive tasks. *Journal of Labor Economics* 34(1) Pt. 2 199-247. Retrieved 13 February 2017 from <http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=111807258&S=R&D=bth&EbscoContent=dGJyMNHr7ESep7A4xNvgOLCmr0%2BegLFSrgg4SrSWxWXS&ContentCustomer=dGJyMOzprkmvqLJPuePfgeyx43zx>

Beitin, B.K. (2018). Interview and sampling: How many and whom. Gubrium, J.F., Holstein, J.A., Marvasti, A. and McKinney, K.D. (eds.) *The Sage Handbook of Interview Research: The Complexity Of The Craft* [e-book]. pp243-2537. Thousand Oaks: SAGE, Retrieved 26 June 2018 from <http://dx.doi.org.liverpool.idm.oclc.org/10.4135/9781452218403.n38>

Ben-Ner, A. and Urtasun, A. (2013). Computerization and skill bifurcation: the role of task complexity in creating skill gains and losses. *Industrial and Labor Relations Review*, 66(1) 225-267. Retrieved 8 June 2018 from <https://eds-b-ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=7&sid=f5c76833-e359-41bc-853b-d85a2731a136%40sessionmgr102>

Benson, J. and Brown, M. (2009). *Generational Differences at work: do they matter?* 1:8 International Industrial Relations Association World Congress Sydney 24-27 August, 2009. Retrieved 29 March 2016 from http://www.ilera-directory.org/15thworldcongress/files/papers/Track_1/Thur_W5_BENSON.pdf

Berry, J.M. (2002). Validity and reliability issues in elite interviewing. *PS: Political Science and Politics*, 35(4) 679-682. Retrieved 27 June 2017 from <https://www.cambridge-org.liverpool.idm.oclc.org/core/services/aop-cambridge-core/content/view/S1049096502001166>

Bersin, J. (2016). The future of work: It's already here and not as scary as you think. y Deloitte, 21 September. Retrieved 13 June 2017 from <http://joshbersin.com/2016/09/the-future-of-work-its-already-here/>

Bessen, J. (2016). How computer automation affects occupations: Technology, jobs and skills. Boston University School of Law, *Law & Economics Working Paper* 15(49) 1-46. (Revised October 2016). Retrieved 13 February 2016 from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2690435

Bessen, J. (2016). Computers don't kill jobs but do increase inequality. *Harvard Business Review*, Digital Articles 24 March 2016 2-6 Retrieved 13 February 2017 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=19&sid=6e7a1f4b-4301-46af-b5b7-4b6a8cce941f%40sessionmgr4009&hid=4205>

Bhalla, V., Dyrchs, S. and Strack, R. (2017). Twelve forces that will radically change how organizations work. *BCG The New Way of Working Series*. Retrieved 20 November 2017 from http://image-src.bcg.com/Images/BCG-Twelve-Forces-that-Will-Radically-Change-the-Future-of-Work-Mar-2017_tcm9-152681.pdf

Biasin, C. (2013). *Adult transitions in transitional times: Configurations and implications for adult education*. Changing configurations of adult education in transitional times. 7th European Research Conference. Humboldt-Universität zu Berlin, 4 - 7 September. Berlin: ESREA, pp. 274-286. Retrieved 6 March 2017 <http://edoc.hu-berlin.de/oa/books/rejEAjEFWlyvs/PDF/21ITOJmqrCsMM.pdf>

Biesta, G. (2006). What's the point of lifelong learning if lifelong learning has no point? On the democratic deficit of policies for lifelong learning. *European Educational Research Journal*, 5(3&4): 169-180 Retrieved 21 November 2016 from <http://eer.sagepub.com.liverpool.idm.oclc.org/content/5/3-4/169.full.pdf+html>

Billett, S. (2011). Older workers, employability and tertiary education and training. Griffin, T. and Beddie, F. (eds.) *Older workers: research readings*. (pp. 97-11). Adelaide: NCVER,. Retrieved 13 June 2018 from https://melbourneinstitute.unimelb.edu.au/assets/documents/hilda-bibliography/working-discussion-research-papers/2011/Griffin_etal_Older_Workers_Research_Readings.pdf

Billett, S., Dymock, D., Johnson, G. and Martin, G. (2011). *Overcoming the paradox of employers' views about older workers*. Griffith Online. Retrieved 6 February 2016 from http://www98.griffith.edu.au/dspace/bitstream/handle/10072/39802/69944_1.pdf?sequence=1

Blaxter, L., Hughes, C. and Tight, M. (2010). *How to Research*, 4th Ed. [Kindle version] Maidenhead, England: Open University Press. Retrieved from Amazon.com section 1442

Boccia, R. (2015). Pro-con: Should the retirement age go up? The Heritage Foundation. Retrieved 2 March 2017 from <http://www.heritage.org/social-security/commentary/pro-con-should-the-retirement-age-go>

Boehm, M. (2014). Job polarization and the decline of middle-class workers' wages. VOX, CEPR Policy Portal. 8 February 2014. Retrieved 12 April 2016 from <http://www.voxeu.org/article/job-polarisation-and-decline-middle-class-workers-wages>

Bohlinger, S., Haake, U., Jørgensen, C.H., Toivainen, H. and Wallo, A. (eds). (2015). *Working and Learning in Times of Uncertainty*. Introduction, 2-13. Rotterdam: Sense Publishers Retrieved 18 November 2016 from <http://bit.ly/1Inc914>

Borbély-Pecze, T.B. and Hutchinson, J. (2014). *Work-based learning and lifelong guidance policies*. Concept Note No. 5. University of Jyväskylä, Finland: European Lifelong Guidance Policy Network. Retrieved 26 November 2016 from <http://www.elgpn.eu/publications/browse-by-language/english/elgpn-concept-note-no.-5-work-based-learning-and-lifelong-guidance-policies/>

Borland, J. and Coelli, M. (2015). *Information technology and the Australian labour market. In Australia's future workforce*. (pp. 131-141). Melbourne: Committee for Economic Development of Australia. Retrieved 29 January 2016 from <http://www.ceda.com.au/research-and-policy/policy-priorities/workforce>

Botsman, R. and Rogers, R. (2010). *What's Mine is Yours: The Rise of Collaborative Consumption*. New York: Harper Collins

Botsman, R. (2014). Sharing's not just for start-ups. *Harvard Business Review*, 92(9): 23-25

Bowman, D., McGann, M., Kimberley, H. and Biggs, S. (2017). 'Rusty, invisible and threatening': ageing, capital and employability. *Work, employment and society*, 31(3), 465-482. Retrieved 3 July 2018 from <http://journals.sagepub.com.liverpool.idm.oclc.org/doi/pdf/10.1177/0950017016645732>

Bradley, T., Henderson, L., Bucifal, S., Bulic, F., Balanguer, A., Drake, P., Boyle, M., Jajeed, O., Latcham, A. and Jones, M. (2016). *Australian Innovation System Report, 2016*. Canberra: Department of Industry, Innovation and Science. Retrieved 21 June 2017 from <https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/Australian-Innovation-System/2016-AIS-Report.pdf>

Bradlow, H. (2015). *The impact of emerging technologies in the workforce of the future. In Australia's future workforce*. (pp. 38-47). Melbourne: Committee for Economic Development of Australia.

Brett, M. (2017). Psychotherapy & Counselling Federation of Australia (PACFA). Issues in contemporary counselling and psychotherapy and the profession's perspective. Interviewed by Lyndell Fraser. 16 May 2017

Bridgstock, R. (2009). The graduate attributes we've overlooked: enhancing graduate employability through career management skills. *Higher Education Research & Development*, 28(1) 31-44. Retrieved 12 June 2017 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=167a54da-f8bc-445d-9a71-a90320da2364%40sessionmgr4006&vid=2&hid=4110>

Briscoe, J.P., Hall, D.T. and DeMuth, R.L.F. (2006). Protean and boundaryless careers: an empirical exploration. *Journal of Vocational Behaviour*, 69, 30-47. Retrieved 14 June 2016 from http://www.choixdecariere.com/pdf/6573/Briscoe_Hall_DeMuth.pdf

Brown, J.S. (2000). Growing up digital: How the web changes work, education, and the ways people learn. *Change Magazine*, 32(2), 10-21. Retrieved 20 July 2018 from <https://eds-b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=15&sid=acd25bad-cb2d-4d7e-836b-61c93b2d2e82%40pdc-v-sessmgr03>

Brown, P., Lauder, H. and Ashton, D. (2008). *Education, globalisation and the knowledge economy*. London: Teaching & Learning Research Council, University of London. Retrieved 26 March 2013 from www.esrc.ac.uk

Bullock, A.N. and Colvin, A.D. (2015). Communication technology integration into social work practice. *Advances in Social Work* 16(1) 1-14. Retrieved 8 June 2017 from <https://journals.iupui.edu/index.php/advancesinsocialwork/article/viewFile/18134/19924>

Bunney, D., Sharplin, E. and Howitt, C. (2015). Generic skills for graduate accountants: The bigger picture, a social and economic Imperative in the new knowledge economy. *Higher Education Research and Development*, 34(2) 256-269. Retrieved 12 June 2017 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=4&sid=df08439e-419b-4e94-86b4-88ca9e7126d9%40sessionmgr4007&hid=4110&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=EJ1054036&db=eric>

Burt, D., Locke, M. and Wilson, M. (2018). *The Applied Model: Reframing Graduate Education* (White Paper). 1 August. Redcliffe North QLD: Graduate Careers Australia. Available at <https://www.locke.com.au/applied-model/>

Business Council of Australia. (2003). *Age can work: A business guide for supporting older workers*. Melbourne: BCA. Retrieved 6 February 2016 from <http://www.bca.com.au/publications/age-can-work-a-business-guide-for-supporting-older-workers>

Business Council of Australia. (2014). *Building Australia's Comparative Advantages*. Melbourne: BCA. Retrieved 18 May 2017 from <http://www.bca.com.au/publications/building-australias-comparative-advantages>

Business Council of Australia. (2015). *Realising our full potential: Tax directions for a transitioning economy*. Melbourne: BCA. Retrieved 18 May 2017 from <http://www.bca.com.au/publications/-realising-our-potential-tax-directions-for-a-transitioning-economy>

Business Council of Australia. (2015). *Health Roundtable – Discussion starter*. Melbourne: BCA. Retrieved 21 June 2017 from <http://www.bca.com.au/policy-agenda/health>

Brinkley, I. (2009). *Manufacturing and the Knowledge Economy*. Retrieved 18 January 2016 from http://www.theworkfoundation.com/downloadpublication/report/212_212_manufacturing%20and%20the%20knowledge%20economy.pdf

Broek, S. and Hake, B.J. (2012). Increasing participation of adults in higher education: factors for successful policies. *International Journal of Lifelong Education*, 5(4) 397-417. Retrieved 17 April 2016 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=1&sid=ce7b0f64-e895-43d5-b5a0-50387>

Brooke, L. and Taylor, P. (2005). Older workers and employment: managing age relations. *Ageing and Society*, 25(3) 415-429. Retrieved 9 April 2016 from <http://ejournals.ebsco.com.liverpool.idm.oclc.org/Direct.asp?AccessToken=95XI5I18XJIR91XZ4MDKQQMXJZ4Z81D199&Show=Object>

Brooke, E., Taylor, P., McLoughlin, C., and Di Base, T. (2013). Managing the working body: active ageing and limits to the 'flexible' firm. *Ageing and Society*, 33(8) 1295-1314. Retrieved 9 April 2016 from http://journals.cambridge.org/abstract_S0144686X12000426

Brynjolfsson, E. and McAfee, A. (2011). *Race against the machine: How the digital revolution is acceleration innovation, driving productivity, and irreversibly transforming employment and the economy*. Lexington, M.A.: Digital Frontier Press.

Brynjolfsson, E. and McAfee, A. (2012). Thriving in the automated economy. *Futurist*. March-April. Retrieved 7 May 2016 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=15&sid=0fbe8bb6-941d-4803-9d1b-7e98b4664f02%40sessionmgr106&hid=111>

Brynjolfsson, E. and McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. [electronic book] New York: W.W. Norton & Company

Brynjolfsson, E. and McAfee, A. (2015). The great decoupling. *Harvard Business Review*, 93(6): 66-74

Brynjolfsson, E. and McAfee, A. (2015). Will humans go the way of horses? Labor in the second machine age. *Foreign Affairs*, July 1 Retrieved 7 May 2016 from <http://eds.b.ebscohost.com/liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=0fbe8bb6-941d-4803-9d1b-7e98b4664f02%40sessionmgr106&vid=19&hid=111>

Calhoun, M. A., Starbuck, W. H. and Abrahamson, E. (2012). Fads, fashions, and the fluidity of knowledge: Peter Senge's 'The learning organization'. In Easterby-Smith, M. and Lyles, M.A. (eds) *Handbook of organizational learning and knowledge management* (pp. 225-248). Hoboken, N.J.: John Wiley & Sons, Inc. 2012 Downloaded 21 February 2016 <http://site.ebrary.com/lib/liverpool/reader.action?docID=10494521>

Cameron, R. (2005). *The mature aged in transition: Innovative practice for reengagement*. Paper to AVETRA Conference Emerging futures, responsive and relevant research. Brisbane 13-15 April 2005. Downloaded 6 June 2016 from <https://avetra.org.au/documents/PA050Cameron.pdf>

Carati, C. and Margelis, G. (2013). *Towards a National Strategy for Telehealth in Australia 2013-2018*. Australasian Telehealth Society Retrieved 19 May 2017 from <http://www.aths.org.au/wp-content/uploads/2016/06/TelehealthStrategy.pdf>

Carlaw, K., Oxley, L. Walker, P., Thorns, D. and Nuth, M. (2012). In Livingstone, D.W. and Guile, D. (eds) *The knowledge economy and lifelong learning: A critical reader*. (pp. 7-42). Rotterdam: Sense Publishers. Retrieved 5 June 2018 from <https://link-springer-com.liverpool.idm.oclc.org/content/pdf/10.1007%2F978-94-6091-915-2.pdf>

CEDA. (2015). *Australia's future workforce?* Melbourne: Committee for Economic Development of Australia. <http://www.ceda.com.au/research-and-policy/policy-priorities/workforce>

CEDA. (2015). *The super challenge of retirement income policy*. Melbourne: Committee for Economic Development of Australia. <http://www.ceda.com.au/research-and-policy/research/2015/09/01/retirement>

CEDA (2016) *Australia's economic future: an agenda for growth*. Melbourne: Committee for Economic Development of Australia. Retrieved 18 May 2017 from <http://www.ceda.com.au/research-and-policy/research/2016/04/reform-equals-growth>

CEDEFOP European Centre for the Development of Vocational Training. (2014) *Navigating difficult waters: learning for career and labour market transitions*. Research Paper No. 42. Luxembourg: Publications office of the European Union.

Centre for Workplace Leadership. (2015). *How organisations can benefit from the ageing workforce*. Carlton, Victoria: University of Melbourne. Retrieved 3 September 2018 from http://www.workplaceleadership.com.au/app/uploads/2015/10/CWL046_AgeingWorkforce_ResearchInsights_Web.pdf

Centre for Future Work. (2018). *5 Possibly Surprising Insights on the Future of Work*. ACTU Congress, July 2018 Brisbane. Retrieved 2 September, 2018 from https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/2837/attachments/original/1531785669/Stanford_to_ACTU_Congress.pdf?1531785669

Chan, A.S. and Merrill, B. (2012). Learning and identity: Life, work and citizenship. In Segal, M.T., Chow, N-L. and Demos, V. (eds.) *Social Production and Reproduction at the Interface of Public and Private Spheres*. [e-book]. (pp.229-252). Emerald Publishing Limited. Retrieved 24 July 2018 from <https://ebookcentral.proquest.com/lib/liverpool/detail.action?docID=992499>

Chen, Y., Argentinis, J.D. and Webber, G. (2016). IBM Watson: How cognitive computing can be applied to big data challenges in life sciences research. *Clinical Therapies* 38(4) 688-701. Retrieved 22 November 2017 from <http://www.sciencedirect.com.liverpool.idm.oclc.org/science/article/pii/S0149291815013168#s0070>

Cho, T., S. Hwang and Schreyer, P. (2017). Has the labour share declined? It depends. *OECD Statistics Working Papers (01)*. Paris: OECD Publishing. Retrieved 19 June 2018 from <http://dx.doi.org/10.1787/2dcfc715-en>

Choi, S., Janiak, A. and Villena-Roldán, B. (2014). Unemployment, Participation and worker flows over the life cycle. *The Economic Journal*, 125 (12) 1705-1733. Retrieved 6 April, 2016 from <http://ejournals.ebsco.com.liverpool.idm.oclc.org/Direct.asp?AccessToken=95X54I18X99X9Z4II19DD1XPPIJ181D199&Show=Object>

Choudoury, J., Subramanian, S., D'Sa, S. and Rajamani, G. (2013). *Healthcare for complex populations: The power of whole-person care models*. Strategy&.PwC Retrieved 15 June 2017 from https://www.strategyand.pwc.com/media/file/Strategyand_Healthcare-for-Complex-Populations.pdf

Christensen, C. (2015). Disruptive innovation is a strategy, not just the technology. *Business Today* 23(26) 150-158. Retrieved 7 March 2017 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=6&sid=bcefb996-85c5-4370-903d-19fa40871ec5%40sessionmgr102&hid=108&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#db=bth&AN=100102138>

Christensen, C.M., Raynor, M. and McDonald, R. (2015). What is disruptive innovation? *Harvard Business Review* 93(12), 44-53. Retrieved 7 March 2017 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=4&sid=bcefb996-85c5-4370-903d->

[19fa40871ec5%40sessionmgr102&hid=108&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#db=bth&AN=111099338](#)

Christensen, C. M., McDonald, R., Altman, E. J., and Palmer, J. E. (2018). Disruptive innovation: An intellectual history and directions for future research. *Journal of Management Studies*. Retrieved 22 September 2018 from <https://doi-org.liverpool.idm.oclc.org/10.1111/joms.12349>

Clarke, R. (2015). *The three tech trends disrupting healthcare*. Retrieved 19 December 2016 from <http://www.ventureinsights.com.au/the-three-tech-trends-disrupting-healthcare/>

Coelli, M. (2015). *Stability of education earnings gaps in Australia. In Australia's future workforce*. (pp. 141-154). Melbourne: Committee for Economic Development of Australia. Retrieved 29 January 2016 from <http://www.ceda.com.au/research-and-policy/policy-priorities/workforce>

Coffield, F. (1999). Breaking the consensus: lifelong learning as social control. *British Educational Research Journal*, 25(4) 479- Retrieved 21 June 2018. Available from <http://dx.doi.org/10.1080/0141192990250405>

Coles, P., Cox, T., Mackey, C. and Richardson, S. (2006). *The Toxic Terabyte*. IBM Global Technology Services London: IBM Retrieved 15 May 2017 from http://www-935.ibm.com/services/no/cio/leverage/levinfo_wp_gts_thetoxic.pdf

Colley, L. (2014). Aging public services and the position of older women: an Australian case study. *Journal of Women & Aging*, 26 (2) 160-184. Retrieved 27 February 2016 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=116c4cfb-635a-46fc-9db8-a2e47d796f80%40sessionmgr4002&vid=6&hid=4211>

Collin, R. (2011). Lives on file: a critical assessment of the career portfolio genre. *Discourse: Studies in the Cultural Politics of Education*, 32(3) 329-342. Retrieved 19 June 2018 from <https://eds-b.ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=2&sid=36432ca4-3919-4582-9aca-7e016520da1d%40sessionmgr120>

Collin, R. (2011). Selling the self: career portfolios and the new common-sense of immaterial capitalism. *Social Semiotics*, 21(5), 615-632. Retrieved 19 June 2018 from <https://eds-a.ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=2&sid=e8b86e5a-d5ab-4e56-b3bf-71c53b7fd289%40sessionmgr4009>

Connolly, E. and Lewis, C. (2010). Structural change in the Australian economy. *Reserve Bank Bulletin*, September Quarter 1-9 Retrieved 2 March 2017 from <https://www.rba.gov.au/publications/bulletin/2010/sep/pdf/bu-0910-1.pdf>

Cotsomitis, J.A. (2018). Is the learning economy a viable concept for understanding the modern economy? *International Journal of Social Economics*, Vol. 45 (3), 492-507. Retrieved 2 July 2018 from <https://doi.org/10.1108/IJSE-01-2017-0025>

Craw, V. (2014). *Futurist Morris Miselowski predicts the jobs we'll be doing in 2050*. news.com.au 24 April <http://www.news.com.au/finance/business/futurist-morris-miselowski-predicts-the-jobs-well-be-doing-in-2050/story-fn5lic6c-1226894721996>

Crosier, D., Horvath, A., Kerpanova, V., Kocanova, D. and Riihainen, J. (2014). *Modernisation of Higher Education in Europe: Access, Retention and Employability*. Retrieved 30 May 2016 from http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/180EN.pdf

Crosnoe, R. and Benner, A.D. (2016). Educational pathways. Shanahan, M.J., Johnson, M.K. and Mortimer, J.T. (eds). (2016). *Handbook of the Life Course* Volume II. (pp. 179-200) New York: Springer Cham Heidelberg

Crossan, B., Field, J., Gallacher, J. and Merrill, B. (2003). Understanding Participation in Learning for Non-Traditional Adult Learners: Learning Careers and the Construction of Learning Identities. *British Journal of Sociology of Education*, 24(1) 55-67. Retrieved 23 November 2016 from <http://www.jstor.org.liverpool.idm.oclc.org/stable/pdf/3593304.pdf>

Cullity, N. (2006). Challenges in understanding and assisting mature-age students who participate in alternative entry programs. *Australian Journal of Adult Learning*, 46(2), 175-201. Retrieved 1 July 2017 from <https://eric.ed.gov/?id=EJ797595>

Cummins, P. and Kunkel, S. (2015). A global examination of policies and practices for lifelong learning. *New Horizons in Adult Education & Human Resource Development*, 27(3), 3-17 Retrieved 23 November 2016 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=8e611763-1499-4604-b1b6-c51038ac5a93%40sessionmgr4008&vid=4&hid=4113>

Cunningham, W. and Villaseñor, P. (2014). *Employer Voices, Employer Demands, and Implications for Public Skills Development Policy*. Policy Research working paper; No. WPS 6853. Washington, DC: World Bank Group. Retrieved 1 May, 2016 from <http://documents.worldbank.org/curated/en/2014/05/19457163/employer-voices-employer-demands-implications-public-skills-development-policy>

Dannefer, D. (2003). Toward a global geography of the life course, In Mortimer, J.T. and Shanahan, M.J. (eds.) *Handbook of the Life Course*. (pp. 647-660). New York: Kluwer Academic Publishers

Dao, M.C., Das, M., Koczan, Z. and Lian, W. (2017). Drivers of declining labour share of income. *IMF Blog*, 12 April. Retrieved 19 June 2018 from <https://blogs.imf.org/2017/04/12/drivers-of-declining-labor-share-of-income/>

Das, S. (2016). Technophobes can relax – there's no such thing as the fourth industrial revolution. *Independent*, 27 November [online]. Retrieved 10 June 2018 from <https://www.independent.co.uk/voices/there-s-no-such-thing-as-the-fourth-industrial-revolution-a7441966.html#comments>

Das, S. (2017). The sharing economy creates a Dickensian world for workers – it masks a dark problem in the labour market *Independent*, 12 February [online]. Retrieved 22 September 2018 from <https://www.independent.co.uk/voices/sharing-economy-gig-economy-uber-airbnb-workers-rights-a7575856.html>

Davey, J. and Davies, M. (2006). Work in later life – opportunity of threat? *Social Policy Journal of New Zealand* 27(3). 20:37. Retrieved 28 March 2016 from <https://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/journals-and-magazines/social-policy-journal/spj27/27-pages20-37.pdf>

Davies, A. (2014). The union movement is facing tough times. *The Sydney Morning Herald*. 1 February. Retrieved 6 March 2016 from <http://www.smh.com.au/national/the-union-movement-is-facing-tough-times-20140131-31sb7.html>

Davis, M. (2010). Unions face fight on a new front. *The Sydney Morning Herald*. 22 September. Retrieved 6 March from <http://www.smh.com.au/federal-politics/political-opinion/unions-face-fight-on-a-new-front-20100922-15mex.html>

Dawson, D.C.E. (2013). From legitimate peripheral participation to full participation? : investigating the career paths of mature physiotherapy students in a context of changing NHS employment opportunities. Doctoral Thesis, Manchester Metropolitan University, Manchester. [on-line]. Retrieved 21 September 2018 from <https://ethos.bl.uk/ProcessOrderDetailsDirect.do?eprintId=603336&thesisTitle=From+legitimate+peripheral+participation+to+full+participation%3F+%3A+investigating+the+career+paths+of+mature+physiotherapy+students+in+a+context+of+changing+NHS+employment+opportunities&documentId=1>

DeCieri, H., Costa, C., Pettit, T. and Buttigied, D. (2009) *Developing a strategic approach for managing an ageing workforce*. 1:10. International Industrial Relations Association World Congress Sydney 24-27 August, 2009. Retrieved 29 March 2016 from http://www.ilera-directory.org/15thworldcongress/files/papers/Track_3/Wed_W2_DE%20CIERI.pdf

de Grip, A. (2004). *Evaluating Human Capital Obsolescence*. European Commission - OECD: Brussels. Retrieved 11 April 2016 from www.oecd.org/els/emp/34932083.pdf

Deloitte (2016). *2016 Global health care outlook: Battling costs while improving care*. UK: Deloitte Touche Tohmatsu. Retrieved 15 June 2017 from <https://www2.deloitte.com/au/en/pages/life-sciences-and-healthcare/articles/global-health-care-sector-outlook.html>

Dening, S. (2015). How useful is Christensen's theory of disruptive innovation? *Forbes* [on-line] October 15 Retrieved 22 September 2018 from <https://www.forbes.com/sites/stevedenning/2015/10/15/how-useful-is-christensens-theory-of-disruptive-innovation/#5c9491382769>

de Paor, C. (2016). The contribution of professional accreditation to quality assurance in higher education. *Quality in Higher Education*, 22(3), 228-241. Retrieved 4 July 2018 from <https://www.tandfonline-com.liverpool.idm.oclc.org/doi/pdf/10.1080/13538322.2016.1263925>

Dittrich, D., Büsch, V. and Micheel, F. (2011). Working beyond retirement age in Germany: The employee's perspective. Chapt .15 189-202. Ennals, R. and Salomon, R.H. (Eds.) (2011). Older Workers in a Sustainable Society. *Labour, Education and Society*. Vol 21. Frankfurt am Main, DEU: Peter Lang AG. Retrieved 10 April 2016 from <http://site.ebrary.com/lib/liverpool/reader.action?docID=10620410&p00=realising+potential%3A+supporting+older+workers+through+learning&ppg=95>

Dombo, E.A., Kays, L. and Weller, K. (2014). Clinical social work practice and technology: Personal, practice, regulatory, and ethical considerations for the twenty-first century. *Social Work in Health Care*, 53 900-919. Retrieved 8 June 2017 from <http://www-tandfonline-com.liverpool.idm.oclc.org/doi/full/10.1080/00981389.2014.948585>

Downes, P. and Stoeckel, A. (2006). *Drivers of structural change in the Australian economy*. Canberra: Centre for International Economics Retrieved 4 March 2017 from <http://www.thecie.com.au/wp-content/uploads/2014/06/MASTER-DITR-26-Feb.pdf>

Duke, K. (2002). Getting Beyond the 'Official Line': Reflections on Dilemmas of Access, Knowledge and Power in Researching Policy Networks. *Journal of Social Policy*, 1(31), 39-59. Retrieved 3 November 2016 from <http://search.proquest.com.liverpool.idm.oclc.org/docview/222035186/fulltextPDF/C1A7E47FD3EE4F56PQ/5?accountid=12117>

Durant-Whyte, H., McCalman, L., O'Callaghan, S., Reid, A. and Steinberg, D. (2015). The impact of computerization and automation on future employment. In CEDA, 2015. *Australia's future workforce* (Chapt. 1.4, pp.56-64). Melbourne: CEDA. Retrieved 28 January 2016 from <http://www.ceda.com.au/research-and-policy/policy-priorities/workforce>

Dury, V.V., Francis, K. and Chapman, Y. (2008). The crusade – a metaphorical explication of the jourey made by mature female undergraduate nursing students. *The Rural and Remote Health*, 8:978 [online]. Retrieved 14 June 2018 from <http://www.rrh.org.au>

Dutta, S., Geiger, T. and Lanvin, B. (2015). (eds). *The Global Information Technology Report 2015: ICTs for Inclusive Growth*. Geneva: World Economic Forum. Retrieved 14 June 2017 from http://www3.weforum.org/docs/WEF_Global_IT_Report_2015.pdf

Dymock, D., Billett, S., Klieve, H., Johnson, G. and Martin, G. (2012). Mature age 'white collar' workers' training and employability. *International Journal of Lifelong Education*, 31(2) 171-186. Retrieved 13 June 2018 from https://research-repository.griffith.edu.au/bitstream/handle/10072/46042/77913_1.pdf?sequence=1&isAllowed=y

Ecclestone, K. (2000). Care or control? Defining learners' needs for lifelong learning. In Field, J. and Leicester, M. (eds). *Lifelong Learning: Education Across the Lifespan*. p. 77-88. Oxon, UK: Routledge Falmer. Retrieved 23 June 2018 from <https://eds-a-ebSCOhost-com.liverpool.idm.oclc.org/eds/detail/detail?vid=16&sid=f50d5c60-28bb-4b94-aa63-9bc584ab9c6e%40sessionmgr4010&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#db=edo&AN=17138069>

Ecclestone, K., Biesta, G. and Hughes, M. (2010). *Transitions and Learning through the Lifecourse*. Oxon, U.K.: Routledge

Edwards, R., Ranson, S.R. and Strain, M. (2002). Reflexivity: towards a theory of lifelong learning. *International Journal of Lifelong Education*, 21(6), 525–536. Retrieved 11 February 2016 from <http://dx.doi.org/10.1080/0260137022000016749>

Elder, G.H., Johnson, M.K. and Crosnoe, R. (2002). The Emergence and Development of Life Course Theory. In Mortimer, J.T. and Shanahan, M.J. (eds.) *Handbook of the Life Course* (pp.3-22). New York: Kluwer Academic Publishers.

Encel, S. (2003). *Age can work: the case for older Australians staying in the workforce*. Retrieved 6 May 2016 from <https://www.google.com.au/#q=BCA+older+workers>

European Centre for the Development of Vocational Training (CEDEFOP). (2014). Navigating Difficult Waters: *Learning for Career and Labour Market Transitions*. Research Paper No 42. Luxembourg: European Union. <https://www.google.com.au/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=Navigating+Difficult+Waters%3A+Learning+for+Career+and+Labour+Market+Transitions.+Research+Paper+No+42>

European Commission. (2010). *Europe 2020: A strategy for smart, sustainable and inclusive growth*. Communication from the Commission, Brussels, 3.3. COM (2010) 2020 final. Retrieved 30 May 2016 from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF>

Estupiñán, J., Kaura, A. and Fengler, K. (2014). *The birth of the healthcare consumer: Growing demands for choice, engagement, and experience*. Strategy&. Retrieved 15 June 2017 from <https://www.strategyand.pwc.com/media/file/The-birth-of-the-healthcare-consumer.pdf>

Etikan, I., Musa, S.A. and Alkassim. R.S. (2016) Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*. 5(1), 1-4.

Retrieved 25 September 2018 from

https://scholar.google.com.au/scholar?q=purposive+sampling+method&hl=en&as_sdt=0&as_vis=1&oi=scholar

Evans, A. and Baxter, J. (2013). *Negotiating The Life Course: Stability and Change in Life Pathways* [e-book]. Dordrecht: Springer. Retrieved 5 July 2018 from <https://link-springer-com.liverpool.idm.oclc.org/content/pdf/10.1007%2F978-90-481-8912-0.pdf>

Evans, K., Schoon, I. and Weale, M. (2011). Life chances, learning and the dynamics of risk in the life course. In Aspin, D.N., Chapman, J., Evans, K. and Bagnall, R. (eds.) (2012). *Second International Handbook of Lifelong Learning*. pp. 245-267. Dordrecht: Springer Netherlands. Retrieved 12 December 2016 from <http://bit.ly/2ggEtg1>

EY (2016). *The upside of disruption. Megatrends shaping 2016 and beyond*. Retrieved 19 June 2018 from https://cdn.ey.com/echannel/gl/en/issues/business-environment/2016megatrends/001-056_EY_Megatrends_report.pdf

Ferrier, F., Burke, G. and Selby Smith, C. (2008). *Skills development for a diverse older workforce*. Adelaide: NCVER. Retrieved 13 June 2018 from https://www.ncver.edu.au/_data/assets/file/0025/5488/nr5013.pdf

Field, J. (2015). Social ties, agency, and change: education and social capital in adult life. In Li, Y (ed.) 2015. *Handbook of Research Methods and Applications in Social Capital* pp. 292-306. Cheltenham, U.K.: Edward Elgar, 2015. Retrieved 16 March 2016 from Academia.edu https://www.academia.edu/23026631/Social_ties_agency_and_change_education_and_social_capital_in_adult_life

Field, J. (2012). Transitions in lifelong learning: Public issues, private troubles, liminal identities. *Studies for the Learning Society*, 2-3, 4-11 Retrieved 23 June 2018 from <https://pdfs.semanticscholar.org/0938/a026d582dd6bdf35074e2e0942f388c8136d.pdf>

Field, J. (2013). Learning through the ages? Generational inequalities and inter-generational dynamics of lifelong learning. *British Journal of Educational Studies*, 61(1), 109-119. Retrieved 23 June 2018 from DOI: [10.1080/00071005.2012.756172](https://doi.org/10.1080/00071005.2012.756172)

Field, J. and Lynch, H. (2015). Getting stuck, becoming unstuck: Agency, identity and transition between learning contexts. *Journal of Adult and Continuing Education*. 21(1), 3-17. Retrieved 23 June 2018 from <http://journals.sagepub.com.liverpool.idm.oclc.org/doi/pdf/10.7227/JACE.21.1.2>

Fillion, G., Koffi, V., and Ekionea, J. B. (2015). Peter Senge's Learning Organization: A critical view and the addition of some new concepts to actualize theory and practice. *Journal of Organizational Culture, Communications & Conflict*, 19(3), 73-102. Retrieved 21 February 2016 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=04c346d3-796f-4084-bb73-1f07e586be27%40sessionmgr113&vid=3&hid=114>

Finnish Centre for Pensions. (No date). *Retirement ages in member states*. Retrieved 2 March 2017 from <http://www.etk.fi/en/the-pension-system-2/the-pension-system/international-comparison/retirement-ages/>

Foundation for Young Australians (2015). *The new work order*. Foundation for Young Australians: Melbourne, Australia. Retrieved 31 January 2016 from <http://www.acara.edu.au/verve/resources/fya-future-of-work-report-final-lr.pdf>

Fournier, G., Zimmermann, H. and Gauthier, C. (2011). Instable career paths among workers 45 and over: Insight gained from long-term career trajectories. *Journal of Aging Studies*, 25. 316-327. Retrieved 6 February 2016 available at doi:10.1016/j.jaging.2010.11.003

Fulmer, R.M and Keys, J.B. (1998). A conversation with Peter Senge: New developments in Organizational Learning. *Organizational Dynamics*, 27(2), 33-42

Frey, C.B. and Osborne, M.A. (2013). *The future of employment: How susceptible are jobs to computerization?* Oxford Martin School, University of Oxford. Retrieved 23 January 2016 from http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf

Freeman, O. (2011). Analysing focus group data. In Hogan, J., Dolan, P. and Donnelly, P. (eds.) *Approaches to Qualitative Research*. [e-book] Cork, Ireland: Oak Tree Press, pp. 181-203. Retrieved 26 June 2016 from <https://www.dawsonera-com.liverpool.idm.oclc.org/readonline/9781904887560/startPage/181/1>

Gahan, P., Harbridge, R., Healy, J. and Williams, R. (2016). The ageing workforce: Policy dilemmas and choices. *Australian Journal of Public Administration*, 76(4) Retrieved 3 July 2018 from <https://eds-a-ebscohost-com.liverpool.idm.oclc.org/eds/detail/detail?vid=1&sid=0affd589-f78d-4b78-94a2-0fc1bf1455ac%40sessionmgr4007&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=000416835300014&db=edswss>

Gartner (2017). Top 10 strategic technology trends for 2018. Retrieved 18 June 2018 from <https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2018/>

Gelade, S., Catts, R. and Gerber, R. (2003). *Securing Success: Good practice in training people aged 45 and over who are disadvantaged in the labour market*. The Workplace

Education Research Consortium-University of New England for Canberra: Department of Education Science and Training. http://www.dest.gov.au/train/train_pub

Gendron, B. (2011). Older workers and active ageing in France: the changing early retirement and company approach. *The International Journal of Human Resource Management*, 22(6), 1221-1231. Retrieved 3 April 2016 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=693bf1cc-7685-487b-95d3-53f6902a73aa%40sessionmgr102&vid=6&hid=111>

George, L.K. (2003). Life course research. Mortimer, J. T. and Shanahan, M.J. (eds) *Handbook of the Life Course* (pp. 671-680). New York: Springer, 2003 Retrieved 5 March 2017 from <https://link-springer-com.liverpool.idm.oclc.org/book/10.1007/b100507/page/2>

Ghemawat, P. (2017). Globalisation in the age of Trump. *Harvard Business Review*, 95(4) 112-123. Retrieved 17 October 2017 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=2&sid=ea6f7748-ba86-4469-ba9c-521e3bb782d6%40sessionmgr102&bdata=JnNpdGU9ZWZlWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=123739298&db=bth>

Glastra, F. J., Hake, B. and Schedler, P.A. (2004). Lifelong learning as transitional learning. *Adult Education Quarterly*, 54(4), 291-307. Retrieved 17 April 2016 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=ce7b0f64-e895-43d5-b5a0-50387c2abac2%40sessionmgr4001&vid=3&hid=4208>

González-Arnal, S. and Kiley, M. (2009). Contextualising rationality: mature student cares and higher education in England. *Feminist Economics*, 15(1) 85-111. Retrieved 30 June 2018 from <https://eds-b.ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=9&sid=db072977-d059-411d-8b2c-f3b623998129%40sessionmgr101>

Goos, M., Manning, A. and Salomons, A. (2014). Explaining Job Polarization: Routine-biased technological change and offshoring. *American Economic Review*, 104(8) 2509-2526. Retrieved 11 April 2016 from <https://www.dropbox.com/s/9w6g1hyws5hnba5/EUPOL-20140601.pdf?dl=0>

Gratton, L. (2011). Lynda Gratton investigates: the future of work, *Development and Learning in Organizations: An International Journal*, 25(3), Retrieved 9 December 2016 from <https://doi-org.liverpool.idm.oclc.org/10.1108/dlo.2011.08125cad.009>

Grattan, L. (2015). *Reshaping work for the future. Australia's future workforce?* CEDA. Retrieved 28 January 2016 from <http://www.ceda.com.au/research-and-policy/policy-priorities/workforce>

Gratton, L. and Scott, A. (2017). The corporate implications of longer lives. *MIT Sloan Management Review* 58(3) 63-70. Retrieved 13 June 2017 from <http://search.proquest.com.liverpool.idm.oclc.org/docview/1885859508/200458A2B1B74691PQ/9?accountid=12117>

Gray, D.E. (2004). *Doing research in the real world*. Adobe Digital Editions Version London: Sage. Retrieved from <https://www.dawsonera.com.liverpool.idm.oclc.org/readonline/9781848604629>

Griffin, T. and Beddie, F. (2011) *Older workers: research findings*. (eds). Adelaide: NCVER. Retrieved 13 June 2018 from https://melbourneinstitute.unimelb.edu.au/assets/documents/hilda-bibliography/working-discussion-research-papers/2011/Griffin_etal_Older_Workers_Research_Readings.pdf

Grothaus, M. (2015). The top jobs in 10 years might not be what you expect. *Fast Company*. Retrieved 4 May 2016 from <http://www.fastcompany.com/3046277/the-new-rules-of-work/the-top-jobs-in-10-years-might-not-be-what-you-expect>

Gubrium J. (2012). The (Extra)Ordinary practices of qualitative interviewing. Gubrium, J.F., Holstein, J.A., Marvasti, A. and McKinney, K.D. (eds.) *The Sage Handbook Of Interview Research: The Complexity Of The Craft*, [e-book]. Chapter 37. Thousand Oaks: SAGE, Retrieved 25 June 2018 from <http://dx.doi.org.liverpool.idm.oclc.org/10.4135/9781452218403.n38>

Guile, D. (2010). *The learning challenge of the knowledge economy*. The knowledge economy and education. Volume 3. Rotterdam: Sense Publishers. Retrieved 25 May 2018 from <https://www.sensepublishers.com/media/1101-the-learning-challenge-of-the-knowledge-economy.pdf>

Guzman, J.M., Pawliczko, A., Beales, S., Till, C. and Voelcker, I. (2012). *Ageing in the twenty-first century. A celebration and a challenge*. New York: United Nations Population Fund. Retrieved 23 November 2016 from <https://www.unfpa.org/sites/default/files/pub-pdf/Ageing%20report.pdf>

Hajkowicz, S.A., Reeson, A., Rudd, L., Bratanova, A., Hodggers, L., Mason, C., and Boughen, N. (2016). *Tomorrow's Digitally Enabled Workforce: Megatrends and scenarios for jobs and employment in Australia over the coming twenty years*. CSIRO: Brisbane. Retrieved 20 March 2016 from <http://www.csiro.au/en/Research/D61/Areas/Data-for-decisions/Strategic-Foresight/Tomorrows-Digitally-Enabled-Workforce>

Hake, B. J. (1999). Lifelong learning in late modernity: The challenges to society, organizations, and individuals. *Adult Education Quarterly*, 49(2) 79-90 Retrieved 17 April 2016 from <http://web.b.ebscohost.com.liverpool.idm.oclc.org/ehost/detail/detail?sid=d19a0a83-0016-45fa-b3f5->

682870107189%40sessionmgr106&vid=1&hid=109&bdata=JnNpdGU9ZWWhvc3QtbGl2ZS-ZzY29wZT1zaXRI#AN=1593408&db=ehh

Hall, J. and Van Gool, K. (2017). Improving the productivity of health services. *Improving service sector productivity: the economic imperative*. Melbourne: CEDA. Retrieved 16 June 2017 from <http://www.ceda.com.au/research-and-policy/research/2017/service-sector-productivity>

Hallqvist, A. and Hyden, L-C. (2012). Learning in occupational transitions: A study of the process following job loss. *Work: A Journal of Prevention, Assessment and Rehabilitation*. 43(2) 331-343. Retrieved 10 February 2016 from <http://web.a.ebscohost.com.liverpool.idm.oclc.org/ehost/pdfviewer/pdfviewer?vid=3&sid=c2f2c3f9-cac8-4b8e-b7ba-3a5c8a1eeb06%40sessionmgr4004&hid=4204>

Handel, M. (2012). *Trends in Job Skill Demands in OECD Countries*. OECD Social, Employment and Migration Working Papers. 143. OECD Publishing. <http://dx.doi.org/10.1787/5k8zk8pcq6td-en>

Hanushek, E. A. and Woessmann, L. (2008). The role of cognitive skills in economic development. *Journal of Economic Literature*, 46(3): 607-668. Retrieved 1 May 2016 from <https://www.aeaweb.org/articles?id=10.1257/jel.46.3.607>

Hardiman, F. (2014). Finding a voice: The experience of mature students in a college of further education. *Adult Learner*, (0790-8040) 29-41. Retrieved 19 July 2018 from <https://eds-a.ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=2&sid=64c87700-abce-4792-b977-681c7527b697%40sessionmgr4008>

Harper, I., Anderson, P., McCluskey, S. and O'Bryan, M. (2015). *Competition Policy Review*. Final Report. Canberra: Commonwealth of Australia http://competitionpolicyreview.gov.au/files/2015/03/Competition-policy-review-report_online.pdf

Harrison, H., Birks, M., Franklin, R. and Mills, J. (2017). Case study research: Foundations and methodological orientations. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 18(1), Art. 19. Retrieved 1 July 2017 from <http://nbn-resolving.de/urn:nbn:de:0114-fqs1701195>.

Harlan, E. (2015). Later life learning transition. *Global Education Journal*, (2), 1-9. Retrieved 6 July 2018 from <https://bit.ly/2NvBBAI>

Hartley, J. (2004). Case study research. In Cassell, C. and Symon, G. (eds.) *Essential Guide to Qualitative Methods in Organizational Research*. (pp342-353). Thousand Oaks: SAGE Publications. Retrieved 21 June 2016 from [http://reader.eblib.com/\(S\(q2tlk23tu0ts3aa3b5xzlusy\)\)/Reader.aspx?p=254634&o=1083&u](http://reader.eblib.com/(S(q2tlk23tu0ts3aa3b5xzlusy))/Reader.aspx?p=254634&o=1083&u)

[=s65REFx12PBTVhOktOMzyncx9hl%3d&t=1466468882&h=851B4ACCA11AEF4B47C3A1B8D03379D420EF2DAD&s=46241292&ut=3544&pg=343&r=img&c=-1&pat=n&cms=-1&sd=2](https://www.researchgate.net/publication/228111111)

Heinz, W.R. (2002). From work trajectories to negotiated careers: The contingent work life course. In Mortimer, J.T. and Shanahan, M.J. (eds.) *Handbook of the Life Course*. (pp. 185-204). New York: Kluwer Academic Publishers

Heinz, W R. (2016). Conceptual foundations of qualitative life course research. *Sociologica*, December, 20-37. Retrieved 5 June 2018 from <http://ler.letras.up.pt.liverpool.idm.oclc.org/uploads/ficheiros/14608.pdf>

Hill, L., Brandeau, G., Truelove, E., and Lineback, K. (2014). Collective genius. *Harvard Business Review*, 92(6), 94-102, 138. Retrieved 27 June 2017 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=17&sid=432d264d-2dba-4088-9451-5173cb3a43ec%40sessionmgr4009&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=edselc.2-52.0-84906313263&db=edselc>

Hitlin, S.H. and Elder, Jr, G.H. (2007). Time, self, and the curiously abstract concept of agency. *Sociological Theory*, 25(2), 170-191. Retrieved 6 July 2018 from <https://www-jstor-org.liverpool.idm.oclc.org/tc/accept?origin=%2Fstable%2Fpdf%2F20453074.pdf>

Hooley, T. (2014). *The Evidence Base on Lifelong Guidance*. European Lifelong Guidance Policy Network: Finland. Retrieved 18 April 2016 from <http://www.elgpn.eu/publications/browse-by-language/english/elgpn-tools-no-3.-the-evidence-base-on-lifelong-guidance/>

Hooley, T., Watts, A. G., Sultana, R. G. and Neary, S. (2013). The "Blueprint" Framework for career management skills: A critical exploration. *British Journal of Guidance & Counselling*, 41(2), 117-131. Retrieved 21 June 2018 from <https://eds-b-ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=5&sid=e07db3ed-014c-4e51-8a05-f88ecbbf85a2%40sessionmgr101>

Horigan, J.B. (2016). *Lifelong learning and technology*. Washington: Pew Research Center. Retrieved 4 April 2016 from <http://www.pewinternet.org/2016/03/22/lifelong-learning-and-technology/>

Hurley, J., Fernández-Macias, E. and Storrie, D. (2013). Employment polarization and job quality in the crisis. *European Jobs Monitor*. Dublin: Eurofund. Retrieved 11 April 2016 from <http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1248&context=intl>

Hutchinson, E. D. (2008). *Dimensions of Human Behaviour: The Changing Life Course* (4th ed.) Thousand Oaks: Sage Publications, Inc. Retrieved 28 February, 2018 from

http://catherinecrisp.com/wp-content/uploads/2017/01/Hutchinson_Life-Course-Perspective.pdf

Hwang, J. and Christensen, C.M. (2008). Disruptive innovation in health care delivery: A framework for business-model innovation. *Health Affairs*, 27(5dss) 1329-1355 Retrieved 19 December 2016 from

http://84.89.132.1/~lemenestrel/IMG/pdf/1_hwang_christensen_healthcare.pdf

IBISWorld (2016). Australia's Growth Industries. *IBISWorld Newsletter*, August. Retrieved 21 June 2017 from https://www.ibisworld.com.au/media/wp-content/uploads/2016/08/Phil_Aug_2016.pdf

IDC (2013). The digital universe is huge – and growing exponentially. Presentation Retrieved 14 June 2017 from <https://www.emc.com/collateral/analyst-reports/idc-digital-universe-2014.pdf>

International Labour Office, (2015). *Global Employment Trends: Risk of a jobless recovery?* International Labour Office: Geneva. Retrieved 9December 2016 from http://www.ilo.org/wcmstp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_233953.pdf

International Labour Office. (2015). *World Employment and Social Outlook: Trends 2015*. International Labour Office: Geneva. Retrieved 10 April 2016 from http://www.ilo.org/wcmstp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_337069.pdf

International Labour Office. (2016). *World Employment Social Outlook: Trends 2016*. International Labour Office: Geneva. Retrieved 14 February 2017 from http://www.ilo.org/wcmstp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_443480.pdf

Isopahkala-Bouret, U. (2013). *Graduating at older age – What are the expected, surprising and unwanted outcomes?* Changing Configurations of Adult Education in Transitional Times. Humboldt-Univesität zu Berlin 4-7 September. Conference Proceedings ESREA. 63:74. Retrieved 24 February 2016. <http://edoc.hu-berlin.de/oa/books/rejEAjEFWlyvs/PDF/21TOJmgrcsMM.pdf#page=63> 63:74
<http://www.voced.edu.au/content/ngv%3A63009>

James, L. (2005). Redefining work as a result of globalisation and the use of new information technologies. *The changing world of work*, No. 2, 38-40. Bilbao: European Agency for Safety and Health at Work. Retrieved 3 July 2018 from https://osha.europa.eu/sites/default/files/publications/documents/en/publications/magazine/2/Magazine_2_-_The_changing_world_of_work.pdf

Joerres, J. (2016). Globalization, Robots, and the Future of Work: An Interview with Jeffrey Joerres. *Harvard Business Review*, 94(10), 74-79. Retrieved 17 October 2017 from <http://web.a.ebscohost.com.liverpool.idm.oclc.org/ehost/pdfviewer/pdfviewer?vid=18&sid=f44102e8-9b99-402c-b2c5-3b4888c0c9fd%40sessionmgr4007>

Johnson, R.B. and Onwuegbuzie, A.J. (2004). Mixed Methods Research: A paradigm whose time has come. *Educational Researcher*, 33(7) 14-26. Retrieved from <http://www.jstor.org/stable/3700093>

Johnson, R.W., Kawachi, J. and Lewis, E.K. (2009). *Older Workers on the Move: Recareering in Later Life*. AARP Public Policy Unit: Washington, USA. Retrieved 14 June 2016 from https://assets.aarp.org/rqcenter/econ/2009_08_recareering.pdf

Juma, C. (2016). *Innovation and Its Enemies*. [e-book] Oxford Scholarship Online: August 2016. Retrieved 3 July 2018 from <http://www.oxfordscholarship.com.liverpool.idm.oclc.org/view/10.1093/acprof:oso/9780190467036.001.0001/acprof-9780190467036?>

Kadahashi, M. and Manheimer, R.J. (2009) Getting ready for the working-in-retirement generation :How should LLI's respond? *The LLI Review* 4, 1-8

Kanagalingam, S. (2016). *Press OK to continue: How digital can transform mental health services*. Retrieved 19 December 2016 from <https://www.digitalpulse.pwc.com.au/digital-mental-health-services/>

Kanagalingam, S. (2016). *Empathy machines: Turning to tech to aid mental wellbeing*. Retrieved 19 December 2016 from <https://www.digitalpulse.pwc.com.au/virtual-reality-healthcare/>

Kasriel, S. (2017). Yes, our working lives are going through massive change, but that doesn't mean we're heading for a jobless world. *World Economic Forum*, 25 April Retrieved 16 May 2017 from <https://www.weforum.org/agenda/2017/04/as-long-as-we-have-problems-to-solve-we-wont-run-out-of-jobs>

Keating, M.T. (2010). *Learning from retrenchment: Local textile workers redefine themselves after global restructuring*. Doctoral Thesis, RMIT University, Melbourne.[online]. Retrieved 16 April 2016 from <https://researchbank.rmit.edu.au/eserv/rmit:9748/Keating.pdf>

Kellerman, A. (1985). The evolution of service economies: A geographical perspective. *The Professional Geographer*, 37(2): 133-145. Retrieved 1 May 2016 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=61&sid=eb15106d-94a8-4be9-aa46-efeb4490de7c%40sessionmgr103&hid=120>

Kelly, J. (2015). Trade union membership plummets. *The Australian*. 27 October. Retrieved 6 March 2016 from <http://www.theaustralian.com.au/national-affairs/trade-union-membership-plummets/news-story/03e84381dec368736bb3f1c89d530e70>

Kennedy, G., Dalgarno, B., Gray, K., Judd, T., Waycott, J., Bennett, S. J., Maton, K. A., Krause, K., Bishop, A., Chang, R. and Churchwood, A. (2007). The Net Generation are not big users of Web 2.0 technologies: preliminary findings. In R. Atkinson, C. McBeath, S. Soong & C. Cheers (eds.), *Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education* (pp. 517-525). Singapore: Nanyang Technology University. Retrieved 22 May 2017 from <http://ro.uow.edu.au/edupapers/920/>

Kessler, S. (2015). The "Sharing Economy" is dead, and we killed it. September 14, 2015. *Fast Company*. Retrieved 17 January 2016 from <http://www.fastcompany.com/3050775/the-sharing-economy-is-dead-and-we-killed-it>

Kimberley, H. and Bowman, D. (2011). Understanding mature-age workforce participation in Australia. Griffin, T. and Beddie, F. (eds.) *Older workers: research readings*. (pp.84-94). Retrieved from Adelaide: NCVER

King, A. A., and Baatartogtokh, B. (2015). How useful is the theory of disruptive innovation? *MIT Sloan Management Review*, (1), 77. Retrieved 22 September 2018 from <https://liverpool.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsbl&AN=RN602968933&site=eds-live&scope=site>

King, C, and James, R. (2013). Creating a demand driven system. Marginson, S. (ed.) *Tertiary Education Policy in Australia*. (pp. 11-20). Melbourne: Centre for the Study of Higher Education, The University of Melbourne. Retrieved 16 July 2018 from https://melbourne-cshe.unimelb.edu.au/_data/assets/pdf_file/0009/2564316/Tert_Edu_Policy_Aus.pdf

Kolbacher, F. (2006). The use of qualitative content analysis in case study research. *Forum Qualitative Social Research* 7(1) Art.21. Retrieved 26 June 2016

Kossen, C. and Pedersen, C. (2008). Older workers in Australia: The myths, the realities and the battle over workforce 'flexibility'. *Journal of Management & Organization*. 14: 73-84. Retrieved 6 February 2016 from http://eprints.usq.edu.au/4399/3/Kossen_Pedersen_PV.pdf

Kirkland, R. (2014). The Great Decoupling. *McKinsey Quarterly*. September. New York: McKinsey & Company. Retrieved 30 January 2016 from <http://www.mckinsey.com/industries/public-sector/our-insights/the-great-decoupling>

Konrath, S. (2014, in press) Positive technology. Using mobile phones for psychosocial interventions. In *Encyclopedia of Mobile Phone Behavior*, Zheng Yan, IGI Global. Retrieved 8 June 2017 from

https://scholarworks.iupui.edu/bitstream/handle/1805/10600/psychosocial_interventions_5.27.pdf?sequence=1&isAllowed=y

Krueger, R.A. and Casey, M.A. (2001). Designing and Conducting Focus Group Interviews. In Krueger, R.A., Casey, M.A., Donner, J., Kirsch, S. and Maack, J.N, (eds). *Social Analysis: Selected tools and techniques*. Paper No. 36, (pp.4-23). Washington, D.C.: The World Bank. Retrieved 15 June 2016 from http://web.worldbank.org/archive/website01028/WEB/IMAGES/SDP_36.PDF#page=10

Kurantowicz, E. and Nizinska, A. (2013). How students 'stay the course': Retention practices in higher education. *Studies in the Education of Adults*. 45(2): 135-147. Retrieved 30 May 2016 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=36&sid=ba23bd46-a56d-4d77-a90c-3c89dcb4c738%40sessionmgr4004&hid=4111&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=94440586&db=a9h>

Lancaster, K. (2016). Confidentiality, anonymity and power relations in elite interviewing: conducting qualitative policy research in a politicised domain. *International Journal of Social Research Methodology*. 1-11. Retrieved 31 October 2016 from <http://dx.doi.org/10.1080/13645579.2015.1123555>

Laub, J.H. (2016). Life course research and the shaping of public policy. In Shanahan, M.J., Mortimer, J.T. and Johnson, M.K. (eds.) *Handbook of the Life Course*. Vol.II. (pp.623-637). Switzerland: Springer International

Lee, S.J. and Walsh, T.B. (2015). Using technology in social work practice: the mDad (Mobile Assisted Dad) Case Study. *Advances in Social Work* 16(1) 107-124. Retrieved 8 June 2017 from <https://journals.iupui.edu/index.php/advancesinsocialwork/article/viewFile/18134/19924>

Lewin, A., Lin, L., Aird, C. and Sappenfield, D. (2010). *The ever-changing global service-provider industry*. Duke Offshoring Research Network, Duke University and PwC. Retrieved 1 May 2016 from <https://www.pwc.com/us/en/increasing-it-effectiveness/assets/the-ever-changing-global-service-provider-industry.pdf>

Lewis, J.R. (2004). *The Oxford Handbook of New Religious Movements*. Oxford University Press: Oxford. Retrieved 18 April 2016 from https://books.google.com.au/books?id=srzUHo874qIC&pg=PA83&lpg=PA83&dq=%22institutionalization+of+reflexivity%E2%80%9D&source=bl&ots=ogoXM0I_a6&sig=ynz4mYGL-5S-utpev43u8i8eLFM&hl=en&sa=X&ved=0ahUKEWjKxILFgZiMAhVN72MKHRGnBS0Q6AEILDAF#v=onepage&q=%22institutionalization%20of%20reflexivity%E2%80%9D&f=false

Li, J., Duncan, A. and Miranti, R. (2012). *Underemployment among mature age workers in Australia*. Paper funded by Australian Research Council (ARC) Linkage Grant LP120100624: Understanding and Preventing Workforce Vulnerabilities in Midlife and Beyond. Retrieved 14 June 2016 from <http://www.murdoch.edu.au/School-of-Business-and-Governance/document/Australian-Conference-of-Economists/Underemployment-among-mature-age-workers-in-Australia.pdf>

Lister, P.G. (2003). "It's like you can't be a whole person, a mother who studies". Lifelong learning: mature women students with caring commitments in social work education. *Journal Work Education*, 22(2), 125-40. Retrieved 1 July 2018 from <https://eds-a-ebSCOhost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=3&sid=dd11a66c-a4c8-48ba-8f02-cdf94112414%40sessionmgr4008>

Livingstone, D.W. and Guile, D. (eds.) (2012). *The Knowledge Economy and Lifelong Learning: A Critical Reader*. Rotterdam: Sense Publishers Retrieved 23 November 2016 from <https://www.sensepublishers.com/media/1576-the-knowledge-economy-and-lifelong-learning.pdf>

Livingstone, D.W. 2012. Debunking the 'knowledge economy'. In Livingstone, D.W. and Guile, D. (eds.) *The Knowledge Economy and Education*. Volume 4, pp85-116. Rotterdam: Sense Publications. Retrieved 5 June 2018 from <https://link-springer-com.liverpool.idm.oclc.org/content/pdf/10.1007%2F978-94-6091-915-2.pdf>

Lobaugh, K., Bieniek, C., Stephens, B. and Pincha, P. (2017). The great retail bifurcation. Deloitte Insights Retrieved 8 June 2018 from https://www2.deloitte.com/content/dam/insights/us/articles/4365_The-great-retail-bifurcation/DI_The-great-retail-bifurcation.pdf

Lopez, K. S. (2012). *Managing digital identities: A grounded theory of mental health professionals' online experiences* (Unpublished doctoral dissertation). University of Houston Graduate College of Social Work, Houston, TX. [\[Google Scholar\]](#), (as quoted in Robbins and Singer)

Lu, C-J. and Shulman, S. W. (2008). Rigor and flexibility in computer-based qualitative research: Introducing the Coding Analysis Toolkit. *International Journal of Multiple Research Approaches*, 2(1), 105-117. Retrieved 13 July 2017 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=2&sid=a230b4f6-4090-48c8-84c8-33257604beff%40sessionmgr102>

Lundberg, D. and Marshallsay, Z. (2008). Older workers' perspectives on training and retention of older workers. Adelaide: NCVER. Retrieved 13 June 2018 from <https://www.ncver.edu.au/data/assets/file/0025/5695/nr5012.pdf>

Lundvall, B-A. and Nielsen, P. (2007). Knowledge management and innovation performance. *International Journal of Manpower*, 28(3/4): 207-223. Retrieved 4 February

from

<http://search.proquest.com.liverpool.idm.oclc.org/docview/231926009/fulltext?accountid=12117>

Lydon, J., Dyer, D. and Bradley, C. (2014). *Compete to Prosper: Improving Australia's global competitiveness*. McKinsey Australia. Retrieved 18 May 2017 from <http://www.bca.com.au/publications/building-australias-comparative-advantages>

Lynch, H. (2008). Lifelong learning, policy and desire. *British Journal of Sociology of Education*, 29(6), 677-689. Retrieved 23 June 2018 from <https://www.tandfonline-com.liverpool.idm.oclc.org/doi/pdf/10.1080/01425690802423353>

Lyons, S.T., Schweitzer, L. and Ng, E.S.W. (2016). How have careers changed? An investigation of changing career patterns across four generations. *Journal of Managerial Psychology*, 30(1): 101-114. Retrieved 9 November 2016 from <http://www.emeraldinsight.com.liverpool.idm.oclc.org/doi/pdfplus/10.1108/JMP-07-2014-0210>

Macmillan, and Eliason, (2003). Characterizing the life course as role configurations and pathways: A latent structure approach. Mortimer, J. T. and Shanahan, M.J. (eds) *Handbook of the Life Course* (pp. 529-554). New York: Springer, 2003 Retrieved 5 March 2017 from <https://link-springer-com.liverpool.idm.oclc.org/book/10.1007/b100507/page/2>

Madero-Cabib, I. (2015). The life course determinants of vulnerability in late careers. *Longitudinal and Life Course Studies*, 6(1): 88-106. Retrieved 16 March 2016 from https://www.academia.edu/10669572/The_life_course_determinants_of_vulnerability_in_late_careers

Manyika, J., Lund, S., Bughin, J., Robinson, K., Mischke, J. and Mahajan, D. (2016). *Independent Work: Choice, necessity and the gig economy*. McKinsey Global Institute. Retrieved 24 May 2017 from <http://www.mckinsey.com/global-themes/employment-and-growth/independent-work-choice-necessity-and-the-gig-economy>

Manyika, J. (2017). Technology, jobs and the future of work. McKinsey Global Institute, Executive Briefing May 2017. Retrieved 21 June 2017 from <http://www.mckinsey.com/global-themes/employment-and-growth/technology-jobs-and-the-future-of-work>

Manyika, J., Chui, M., Miremadi, M., Bughin, J., George, K., Wilmott, P. and Dewhurst, M. (2017). *Harnessing automation for a future that works*. McKinsey Global Institute. Retrieved 16 July 2017 from <http://www.mckinsey.com/global-themes/digital-disruption/harnessing-automation-for-a-future-that-works>

Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, J., Batra, P., Ko, R. and Sanghvi, S. (2017). Jobs Lost, Jobs Gained: Workforce transitions in a time of automation. McKinsey

Global Institute. Retrieved 21 January 2018 from

<https://www.mckinsey.com/~media/McKinsey/Global%20Themes/Future%20of%20Organizations/What%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/MGI-Jobs-Lost-Jobs-Gained-Report-December-6-2017.ashx>

Marr, B. (2015). Big Data: 20 mind-boggling facts everyone must read. September 30, 2015 *Forbes* [Online] Retrieved 14 June 2017 from

<https://www.forbes.com/sites/bernardmarr/2015/09/30/big-data-20-mind-boggling-facts-everyone-must-read/#44f95a1a17b1>

Marshall, G. (1998). "reflexive modernization." *A Dictionary of Sociology*. Retrieved May 02, 2016 from Encyclopedia.com: <http://www.encyclopedia.com/doc/1O88-reflexivemodernization.html>

Mason, S. (2018). The impact of transformational learning for mature adults studying a foundation degree. *Widening Participation and Lifelong Learning*, 20(2), 8-27. Retrieved 19 July 2018 from <https://eds-a-ebSCOhost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=4&sid=64c87700-abce-4792-b977-681c7527b697%40sessionmgr4008>

Maxwell, J. A. (2005). *Qualitative Research Design: An Interactive Approach*. Thousand Oaks, CA: Sage.

McAfee, A. and Brynjolfsson, E. (2012). Big data: The management revolution. *Harvard Business Review* [Online] October, pp1-9. Retrieved 22 November 2017 from <http://tarjomefa.com/wp-content/uploads/2017/04/6539-English-TarjomeFa-1.pdf>

McCarthy, J., Heraty, N. and Cross, C. (2014). Who is considered an 'older worker'? Extending our conceptualization of 'older' from an organizational decision make perspective. *Human Resource Management Journal*, 24(4), 374-393. Retrieved 6 April 2016 from <http://eds.a-ebSCOhost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=eecf1ac7-c2d4-4da8-a144-07740b270365%40sessionmgr4003&vid=6&hid=4202>

McCune, V., Hounsell, J., Christie, H., Cree, V. E. and Tett, L. (2010). Mature and younger students' reasons for making the transition from further education into higher education. *Teaching In Higher Education*, 15(6), 691-702. Retrieved 29 June 2016 from <http://eds.a-ebSCOhost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=4&sid=6317e9e9-9268-4836-bd96-00c10913a55c%40sessionmgr4008>

McCrindle, M. (2014) Job mobility in Australia June, 18 Retrieved 22 February, 2017 from <http://mccrindle.com.au/the-mccrindle-blog/job-mobility-in-australia>

McCrindle, M. (2014). Australia in 2020: A snapshot of the future. Retrieved 27 February 2017 from <http://mccrindle.com.au/ResearchSummaries/Australia-in-2020-A-Snapshot-of-the-Future.pdf>

McKenzie, F. (2015). Megatrends and Australia's future: Older and wiser? *Australia's Future Workforce*. Melbourne: CEDA pp.85-97 Retrieved 27 February 2017
https://www.ceda.com.au/CEDA/media/ResearchCatalogueDocuments/Research%20and%20Policy/PDF/26792-Futureworkforce_June2015.pdf

McGann, M., Bowman, D., Kimberley, H. and Biggs, S. (2015). *Too old to work, too young to retire*. Australian Research Council (ARC) Linkage Research Project: Understanding and preventing workforce vulnerabilities in mid-life and beyond 2012-2015 Retrieved 14 June 2016 from
http://library.bsl.org.au/jspui/bitstream/1/7905/4/Workforce_vulnerabilities_in_midlife_and_beyond_research_summary_2015.pdf

McKinsey & Company. (2014). *The great decoupling: The rapid advance of machine learning presents an economic paradox: productivity is rising, but employment may not*. Retrieved 30 January 2016 from
http://www.mckinsey.com/insights/public_sector/the_great_decoupling

McMullin, J., Comeau, T. and Jovic, E. (2007). Generational affinities and discourses of difference: a case study of highly skilled information technology workers. *British Journal of Sociology*, 58(2), 297-316. Retrieved 7 May 2016 from
<http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=29&sid=0fbe8bb6-941d-4803-9d1b-7e98b4664f02%40sessionmgr106&hid=111&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=000247316500007&db=edswss>

McNair, S. (no date). *Extending Working Life*. Centre for Research into the Older Workforce, University of Surrey. Retrieved 2 April 2016 from
http://www.reading.ac.uk/equal/Worker/Stephen_Mc.pdf

McNair, S. (2008). Strengthening the older workforce: an evaluation of the ReGrow Project in the South East Region. National Institute of Adult Continuing Education. Retrieved 24 October 2017 from <http://stephenmcnair.uk/wp-content/uploads/2015/07/ReGrow-evaluation-report-Dec-2008.pdf>

McNair, S., Flynn, M., Owen, L., Humphreys, S. and Woodfield, S. (2004). *Changing work in later life: a study of job transitions*. Centre for Research into the Older Workforce, University of Surrey. Retrieved 2 April 2016 from <http://stephenmcnair.uk/wp-content/uploads/2015/07/2004-Changing-Work-in-Later-Life.pdf>

Mead, R. (2017). Business and managerial system innovation in the health sector. Improving service sector productivity: the economic imperative. Melbourne, Australia:

CEDA. Retrieved 16 June 2017 from

http://adminpanel.ceda.com.au/FOLDERS/Service/Files/Documents/35108~Version_for_fli_psnack.pdf

Mercer, J. and Saunders, D. (2004). Accommodating change: the process of growth and development amongst a mature student population. *Research in Post-Compulsory Education*, 9(2), 283-300. Retrieved 30 June 2018 from <https://www-tandfonline-com.liverpool.idm.oclc.org/doi/pdf/10.1080/13596740400200171>

Merriam, S.B. (2009). *Qualitative Research: A Guide to Design and Implementation*. [electronic book] San Francisco: Jossey-Bass. Retrieved 26 June 2016 from University of Liverpool.

Merrill, B. (2015). Determined to stay or determined to leave? A tale of learner identities, biographies and adult students in higher education. *Studies in Higher Education*. 40(10) 1859-1871. Retrieved 5 November 2016 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=14&sid=>

Merrill, B. and Monteagudo, J.G. (2010). Experiencing undergraduate learning as a non-traditional adult student: a biographical approach. [Online] Retrieved 7 December 2016 from http://www.dsw.edu.pl/fileadmin/www-ranlhe/files/MerrillGonzalezMonteagudo_ICERI2010_finalpaper.pdf

Meyers, R., Billett, S. and Kelly, A. (2010). Mature-aged workers' learning needs and motivations for participation in training programs. *International Journal of Training Research*, 8(2), 116-127. Retrieved 20 March 2016 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=ff604696-7978-40cf-ac2a-a144a2ed3ad9%40sessionmgr4002&vid=5&hid=4110>

Mikecz, R. (2012). Interviewing Elites: Addressing Methodological Issues. *Qualitative Inquiry*, 8(6), 482-493. Retrieved 1 November 2016 from <http://qix.sagepub.com.liverpool.idm.oclc.org/content/18/6/482.full.pdf+html>

Miller, C.C. (2014). When Uber and Airbnb meet the real world. *The New York Times*, 17 October [Online]. Retrieved 22 November 2017 from <https://www.nytimes.com/2014/10/19/upshot/when-uber-lyft-and-airbnb-meet-the-real-world.html>

Mills, M. and Blossfeld, H-P. (2013). The second demographic transition meets globalization: A comprehensive theory to understand changes in family formation in an Era of rising uncertainty. In Evans, A. and Baxter, J. (eds.) *Negotiating the Life Course.: Stability and Change in Life Pathways* [e-book]. Dordrecht: Springer.. Retrieved 5 July 2018 from <https://link-springer-com.liverpool.idm.oclc.org/content/pdf/10.1007%2F978-90-481-8912-0.pdf>

Minifie, J. and Wiltshire, T. (2016). Peer-to-peer pressure: Policy for the sharing economy. Grattan Institute. Retrieved 22 November 2017 from <https://grattan.edu.au/wp-content/uploads/2016/04/871-Peer-to-peer-pressure.pdf>

Moen, P. (2011). From 'work-family' to the 'gendered life course' and 'fit': five challenges to the field. *Community, Work & Family*, 14(1), 81-96. Retrieved 5 July 2018 from <https://eds-a-ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=7&sid=eeca222f-3f12-4189-8e0e-0f4c0bd347b4%40sessionmgr4007>

Moen, P. (2016). *Outdated Career and Life-Course Templates*. Oxford University Press, [e-book]. Retrieved 5 July, 2018 from <https://eds-a-ebscohost-com.liverpool.idm.oclc.org/eds/detail/detail?vid=3&sid=bc92d058-2868-4f56-833a-2fe8d016a1f4%40sessionmgr4009&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=oso.9780199357277.003.0002&db=edsoso>

Moen, P., Kojola, E. and Schaefer, K. (2017). Organizational change around an older workforce. *Gerontologist*, 57(5), 847-856. Retrieved 5 July 2018 from <https://eds-a-ebscohost-com.liverpool.idm.oclc.org/eds/detail/detail?vid=4&sid=eeca222f-3f12-4189-8e0e-0f4c0bd347b4%40sessionmgr4007&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=000412236100009&db=edswss>

Montresor, F. (2016). The 7 technologies changing your world. *World Economic Forum*, 19 Jan 2016. Retrieved 23 May 2017 from <https://www.weforum.org/agenda/2016/01/a-brief-guide-to-the-technologies-changing-world/>

Mooney, D. (2012). Getting out of the house: an examination of the experience of a group of women returning to education. *Irish Journal of Academic Practice*, 1(1), 2-24. Retrieved 1 July 2018. Available at: <https://arrow.dit.ie/ijap/vol1/iss1/6>

Moore, N. and Stokes, P. (2012). Elite interviewing and the role of sector context: An organizational case from the football industry. *Qualitative Market Research: An International Journal*, 15(4), 438-464. Retrieved 31 October 2016. <http://www.emeraldinsight.com.liverpool.idm.oclc.org/doi/pdfplus/10.1108/13522751211257105>

Morena, C., Andreas, W., and Federico, Z. (2016). Educational trajectories at the crossroad between life course and education. An interactive theoretical approach. *Ricerche Di Pedagogia E Didattica*, 11(1), 41-60. Retrieved 6 July 2018 from <https://eds-a-ebscohost-com.liverpool.idm.oclc.org/eds/detail/detail?vid=2&sid=8bea2318-521b-449a-9b01-672e6abbd57%40sessionmgr4010&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=edsdoj.9804b2cb080747668483e710a46a5e2f&db=edsdoj>

Mortimer, J. and Moen, P. (2016). The changing social construction of age and the life course. In M. Shanahan, J. Mortimer, & M. Johnson (eds.) *Handbook of the life course*, vol. II. Cham: Springer.

Mortimer, J.T. and Shanahan, M.J. (eds.) (2002) *Handbook of the Life Course*. New York: Kluwer Academic Publishers. [electronic book] Retrieved 28 February 2016 from University of Liverpool.

Murray, A. (2015). Narrating their liminal journeys: the stories of women 'returning' to education. EdD thesis. University of Glasgow [on-line}. Retrieved 1 July 2018 from <http://ethos.bl.uk/ProcessOrderDetailsDirect.do?eprintId=669444&thesisTitle=Narrating+their+liminal+journeys+%3A+the+stories+of+women+%27returning%27+to+education&documentId>

Myers, J. (2016). Explainer: The internet of things. *World Economic Forum*. 21 July [Online]. Retrieved 7 March 2017 from <https://www.weforum.org/agenda/2016/07/the-internet-of-things-explained/>

Nam, S. (2014). *The future of behavioural health: Some disruptive ideas*. Retrieved 19 December 2016 from <http://www.christenseninstitute.org/blog/the-future-of-behavioral-health-some-disruptive-ideas/>

Ng, T.W.H. and Feldman, D.C. (2012). Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology* 65, 821-858 Retrieved 15 February 2017 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=164f071f-e8ba-49bf-a507-377aab6723b3%40sessionmgr104&vid=23&hid=127>

Noble, Carolyn. (2016). *Issues in contemporary Social Work*. Interviewed by Lyndell Fraser, 16 June 2016

NSW Treasury (2016) *NSW intergenerational Report 2016: Overview*. Retrieved 11 May 2017 from <https://www.treasury.nsw.gov.au/sites/default/files/2017-02/Overview%20-%20Future%20State%20NSW%202056.pdf>

Odena, O. (2013). Using software to tell a trustworthy, convincing and useful story. *International Journal of Social Research Methodology*, 16(5), 355-372. Retrieved 13 July 2017 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=3&sid=63515bf1-e76a-45b3-b8ab-207ee8352dde%40sessionmgr101>

OECD. (1996). *The knowledge based economy*. Retrieved 16 January 2016 from <http://www.oecd.org/sti/sci-tech/1913021.pdf>

OECD. (2001). *Investing in competencies for all*. Meeting of OECD Education Ministers. Paris: OECD Publications. pp 1-11. Retrieved 19 March 2016 from <http://www.oecd.org/innovation/research/1870557.pdf>

OECD. (2012). *Education at a Glance: OECD Indicators 2012*. Australia. Retrieved 23 February 2017 from <https://www.oecd.org/australia/EAG2012%20-%20Country%20note%20-%20Australia.pdf>

OECD. (2015) Editorial Time is running out to help workers move up the jobs ladder. Retrieved 19 March 2016 from <http://www.oecd.org/els/emp/OECDEmploymentOutlook-2015-Editorial.pdf>

OECD. (2015) *Pensions at a Glance*. Retrieved 22 May 2017 from http://www.keepeek.com/Digital-Asset-Management/oecd/social-issues-migration-health/pensions-at-a-glance-2015_pension_glance-2015-en#.WSJGkeV96Uk#page7

Offir, B., Lev, Y. and Bezalel, R. (2008). Surface and deep learning processes in distance education: Synchronous versus asynchronous systems. *Computers and Education* 51, 1172-1183. Retrieved 21 June 2018 from https://scholar.google.com.au/scholar?hl=en&as_sdt=0%2C5&as_vis=1&q=deep+learning+in+education&btnG=

Olesen, H.S. (2013). Professional identities, subjectivity, and learning: becoming a General Practitioner. West, L., Alheit, P., and Anderson, A. S. (eds.) *Using Biographical and Life History Approaches in the Study of Adult and Lifelong Learning*. (2013)[electronic book] : European Perspectives. Frankfurt am Main : Peter Lang GmbH, Internationaler Verlag der Wissenschaften. Retrieved 16 April, 2016 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=10&sid=6a945beac674-46d6-acd3-1ed3583e0065%40sessionmgr104&hid=103&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=lvp.b3826516&db=cat00003a>

O'Rand, A.M. (2003) .The future of the life course late modernity and life course risks. In Mortimer, J.T. and Shanahan, M.J. (eds.) *Handbook of the Life Course*. (2003). (pp. 693-701). New York: Kluwer Academic Publishers

O'Rand, A.M. and Bostic, A. (2016) Lags and leaps: The dynamics of demography, economy and policy and their implications for life course research. Shanahan, M.J., Johnson, M.K. and Mortimer, J.T. (eds). *Handbook of the Life Course* Volume II. (2016). (pp. 705-720). New York: Springer Cham Heidelberg

O'Shea, S. and Stone, C. (2010). Transformations and self-discovery: mature-age women's reflections on returning to university study. *Studies in Continuing Education* 33(3), 273-288. Retrieved 5 July 2017 from

<http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=21&sid=08628cc3-361d-4998-9a30-be9d865cb9b5%40sessionmgr104>

Oyserman, D., Elmore, K. and Smith, G. (2012). Self, Self-Concept, and Identity. Leary, M.R. and Tangney, J.P. (eds.) *Handbook of Self and Identity* (2012). (pp.69-104). New York: The Guilford Press. Retrieved 3 May 2017 from https://dornsife.usc.edu/assets/sites/782/docs/handbook_of_self_and_identity_-_second_edition_-_ch._4_pp._69-104_38_pages.pdf

Parker, S., Dempster, A. and Warburton, M. (2018). *Reimagining tertiary education: From binary system to ecosystem*. KPMG.com/.au/educationfuture. Retrieved 30 August 2018 from <https://home.kpmg.com/content/dam/kpmg/au/pdf/2018/reimagining-tertiary-education.pdf>

Per Capita. (2014). *Blueprint for an Ageing Australia*. Per Capita Australia Limited: Surrey Hills, Australia. Retrieved 12 June 2016 from <http://percapita.org.au/wp-content/uploads/2014/11/BlueprintForAnAgeingAustralia.pdf>

Peters, M.A. (2004). Education and ideologies of the knowledge economy: Europe and the politics of emulation. *Social Work and Society*. 2(2) 160:172 Retrieved 4 February 2016 from <http://www.socwork.net/sws/article/view/224>

Peterson, C.L. and Murphy, G. (2010). Transition from the labor market: older workers and retirement. *International Journal of Health Services*. 40(4): 609-627 Retrieved 6 February 2016 from <http://joh.sagepub.com.liverpool.idm.oclc.org/content/40/4/609.full.pdf+html>

QSR International, 2017. NVivo. http://help-nv11.qsrinternational.com/desktop/concepts/about_queries.htm

Pew Research Center. (2016). *The state of American jobs*. Retrieved 14 February 2017 from <http://www.pewsocialtrends.org/2016/10/06/the-state-of-american-jobs/>

Pillay, H., Kelly, K. and Tones, M. (2008). Exploring work and development options to reduce early labour force exit of mature aged Australians. *International Journal of Training Research*, 6(2), 20–39. Retrieved 21 September 2018 from <https://liverpool.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ938092&site=eds-live&scope=site>

Potter, J. and Hepburn, A. (2005). Qualitative interviews in psychology: Problems and possibilities. *Qualitative Research in Psychology*, 2, 281-307. Retrieved from <http://dx.doi.org.liverpool.idm.oclc.org/10.1191/1478088705qp045oa>

Price, R. H. (2015). Changing life trajectories, employment challenges and worker health in global perspective. In Vuori, J., Blonk, R. and Price, R.H. (eds) (2015). *Sustainable*

working lives: Managing work transitions and health throughout the course of life. (pp. 3-16). Dordrecht: Springer Science+Business Media.

PwC. (2015). *A smart move*. Retrieved 19 January 2016 from <https://pwc.docalytics.com/v/a-smart-move-pwc-stem-report-april-2015>

PwC. (2016). *Australian higher education workforce of the future*. Retrieved 8 February 2016 from <http://www.aheia.edu.au/news/higher-education-workforce-of-the-future-167>

PwC. (2016). *Is Australia facing the risk of complacency?* Retrieved 18 May 2017 from <http://www.pwc.com.au/pdf/pwc-whitepaper-is-australia-facing-the-risk-of-complacency.pdf>

PwC. (2016). *PwC Golden Age Index: How well are OECD economies harnessing the power of an older workforce?* Australian edition. Retrieved 22 June 2017 from <http://www.pwc.com.au/publications/assets/people-golden-age-index-jun16.pdf>

PwC. (2017). Top health industry issues of 2017. A year of uncertainty and opportunity. Retrieved 22 June 2017 from <https://www.pwc.com/us/en/health-industries/pdf/pwc-hri-top-healthcare-issues-2017.pdf>

United States Government. (2016). *Artificial Intelligence, Automation and the Economy*. Retrieved 2 July 2018 from <https://www.technologyreview.com/s/603465/the-relentless-pace-of-automation/>

Raghupathi, W. and Raghupathi, V. (2014). Big data analytics in healthcare: promise and potential. *Health Information Science and Systems* 2:3 Retrieved 22 November, 2017 from <https://www.biomedcentral-com.liverpool.idm.oclc.org/track/pdf/10.1186/2047-2501-2-3?site=hissjournal.biomedcentral.com>

Rajabi, A, Ghasemzadeh, A., Ashrafpouric, Z. and Saadatd, M. (2012), Effects of counseling by mobile phone short message service (SMS) on reducing aggressive behavior in adolescence. *Procedia – Social and Behavioral Sciences*, 43 1138-1142. Retrieved 8 June 2017 from http://ac.els-cdn.com.liverpool.idm.oclc.org/S1877042812013924/1-s2.0-S1877042812013924-main.pdf?_tid=e0922452-4bf5-11e7-99cf-00000aab0f26&acdnat=1496890686_a4ff3de417c345fcabe7a7d5e1587eb1

Reay, D. (2003). A risky business? Mature working-class women students and access to higher education. *Gender and Education*. 15(3), 301:317. Retrieved 24 February from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=2&sid=9ea5a5bb-0ff5-481e-bf91-0a36b4105a14%40sessionmgr4005&hid=4205>

Reay, D., Ball, S. and David, M. (2002). 'It's taking me a long time but I'll get there in the end': Mature students on access courses and higher education choice. *British Educational Research Journal*, (28)5 5-20. Retrieved 18 June 2018 from <https://eds-b.ebscohost->

com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=4&sid=ce2daf4e-89da-4a4b-bc75-37ff6d3f1e4e%40pdc-v-sessmgr01

Rees, G. (2013). Comparing adult learning systems: an emerging political economy. *European Journal of Education*, 48(2). 200-212. Retrieved 12 June 2018 from <https://eds-b-ebSCOhost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=15&sid=1c62bd9d-b454-4ae5-bf51-677cbcb45c1c%40sessionmgr120>

Richards, D. (1996). Elite Interviewing: Approaches and Pitfalls. *Politics* 16(3) 199-204. Retrieved 26 June 2017 from <http://onlinelibrary.wiley.com.liverpool.idm.oclc.org/doi/10.1111/j.1467-9256.1996.tb00039.x/epdf>

Richardson, A. (2002). An ecology of learning and the role of eLearning in the learning environment. [on-line]. Global Summit of Online Knowledge Networks. Retrieved 19 July 2017 from <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN007791.pdf>

Rifkin, J. (2016). The 2016 world economic forum misfires with its fourth industrial revolution theme. *Huffpost*, 14 January [online]. Retrieved from https://www.huffingtonpost.com/jeremy-rifkin/the-2016-world-economic-f_b_8975326.html

Robbins, S.P. and Singer, J.B. (2014). The medium is the message: Integrating social media and social work education. *Journal of Social Work Education* 50(13) 387-390. Retrieved 8 June 2017 from <http://www.tandfonline-com.liverpool.idm.oclc.org/doi/full/10.1080/10437797.2014.916957>

Robertson, S.L. (2005). Re-imagining and rescripting the future of education: global knowledge economy discourses and the challenge to education systems. *Comparative Education*, 41(2)151-170. Retrieved 25 May 2018. <https://doi.org/10.1080/03050060500150922>

Roghé, F., Toma, A., Scholz, S., Schudey, A. and Koike, J. (2017). Boosting performance through organization design. *BCG Collections – The new new way of working*. Retrieved 20 November 2017 from <https://www.bcg.com/publications/2017/people-boosting-performance-through-organization-design.aspx>

Ronnie, L. (2016). Academic capital and the world of work: experiences of mature students. *Journal of Applied Research in Higher Education* 8(2) 265-276. Retrieved 30 June 2018 from <https://www.emeraldinsight-com.liverpool.idm.oclc.org/doi/pdfplus/10.1108/JARHE-02-2015-0013>

Rosenberg, M. (2007). *Sectors of the economy*. [www.about.com/ education/](http://www.about.com/education/). Retrieved 1 May 2016 from <http://geography.about.com/od/urbaneconomicgeography/a/sectorseconomy.htm>

Rotman, D. (2017). The relentless pace of automation. MIT Technology Review[on-line]. Retrieved 2 July 2018 from <https://www.technologyreview.com/s/603465/the-relentless-pace-of-automation/>

Rowley, J. and Gibbs, P. (2008). From learning organization to practically wise organization. *The Learning Organization*, 15(5), 356-372. Retrieved 8 March 2017 from <http://www.emeraldinsight.com.liverpool.idm.oclc.org/doi/pdfplus/10.1108/09696470810898357>

Ryan, R.M. and Deci, E. L. (2000). Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary Educational Psychology* 25, 54-67. Retrieved 26 November 2017 from <http://repositorio.minedu.gob.pe/bitstream/handle/123456789/2958/Intrinsic%20and%20Extrinsic%20Motivations%20Classic%20Definitions%20and%20New%20Directions.pdf?sequence=1&isAllowed=y>

SARRAH. (2012). *Telehealth and Allied Health*. Position Paper. Deakin, ACT: Services for Australian Rural and Remote Allied Health (SARRAH) 19 May 2017 from https://sarrah.org.au/sites/default/files/docs/allied_health_and_telehealth_final_-_19.10.12.pdf

Sammur, J., Thomas, G. and Seaton, P. (2016). *Medi-Vation: 'Health Innovation Communities' for Medicare Payment and Service Reform*. The Centre for Independent Studies, Research Paper 21. Retrieved 19 May 2017 from <https://www.cis.org.au/app/uploads/2016/11/rr21.pdf>

Sargent L., Lee, M., Martin, B. and Zikic, J. (2013). 'Reinventing retirement: new pathways, new arrangements, new meanings.' *Human Relations* 66:1, 3-21 Retrieved 14 June 2016 from <http://hum.sagepub.com/content/66/1/3.full.pdf+html?ikey=gvfuiWkNcVIE&keytype=ref&siteid=sphum>

Saunders, M., Lewis, P. and Thornhill, A. (2007). *Research Methods for Business Students* (4th Ed.) Harlow, U.K: Prentice Hall

Scanlon, L. (2008). Adults' motives for returning to study: the role of self-authoring. *Studies in Continuing Education*, 30(1), 17-32. Retrieved 28 June 2017 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=1&sid=43cbf9c5-7250-4994-bd35-50b9142c6bb2%40sessionmgr120&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=28674107&db=ehh>

Schalk, R., van Veldhoven, M., de Lange, A.H., De Witte, H., Kraus, K., Stamov-Roßnagel, C., Tordera, N., van der Heijden, B., Zappalà, S., Bal, M., Bertrand, F., Claes, R., Crego, A., Dorenbosch, L., de Jonge, J., Desmette, D. Gellert, F.J., Hansez, I., Iller, C., Kooij, D., Kuipers, B., Linkola, P., van den Broeck, A., van der Schoot, E. and Zacher, H. (2010). Moving European research on work and ageing forward: Overview and agenda. *European Journal of Work and Organizational Psychology*, 19:1, 76-101. Retrieved 9 April, 2016 from <http://dx.doi.org/10.1080/13594320802674629>

Schlossberg, N. K. (1982). Review of Americans in Transition: Life changes as reasons for adult learning by Aslanian, C.B. and Brickell, H. M. Princeton, N.J.: College Entrance Examination Board, *The Journal of Higher Education* 53(2), 233–235. Retrieved 20 January 2016 from http://www.jstor.org/stable/1981501?seq=1#page_scan_tab_contents

Schmidt, B. (2007). Older employee behaviour and interest in continuing education. *Journal of Adult and Continuing Education*, 13(2), 156-174. Retrieved 3 July 2018 from <http://journals.sagepub.com/liverpool.idm.oclc.org/doi/pdf/10.7227/JACE.13.2.4>

Schwab, K. (2015). The Fourth Industrial Revolution: what it means, how to respond. World Economic Forum. *Foreign Affairs*, December. Retrieved September 19, 2018, from <https://www.foreignaffairs.com/articles/2015-12-12/fourth-industrial-revolution>

Schwartz, J., Bohdal-Spiegelhoff, U., Gretczko, M. and Sloan, N. (2016). *The new organization: Different by design*. Deloitte Global Human Capital Trends 2016: Deloitte University Press. Retrieved 13 June 2017 from <https://www2.deloitte.com/au/en/pages/human-capital/articles/introduction-human-capital-trends.html>

Schwartz, J., Collins, L., Stockton, H., Wagner, D. and Walsh, B. (2017). *Rewriting the rules for the digital age*. Deloitte Global Human Capital Trends 2017. Deloitte University Press. Retrieved 13 June 2017 from <https://www2.deloitte.com/us/en/pages/human-capital/articles/introduction-human-capital-trends.html>

Schwartz, J., Bohdal-Spiegelhoff, U., Gretczko, M. and Sloan, N. (2016). The gig economy: distraction or disruption. The new organization: Different by design. *Global Human Capital Trends*. 2016. Deloitte University Press. Retrieved 19 March 2016 from http://d27n205l7rookf.cloudfront.net/wp-content/uploads/2016/02/DUP_GlobalHumanCapitalTrends_2016_2.pdf

Selby Smith, C., Smith, A. and Smith, E. (2007). *Pedagogical issues for training of mature-aged workers in manufacturing industry*. North Sydney: Manufacturing Skills Australia. Retrieved 6 February from <http://www.mskills.com.au/DownloadManager/downloads/Training%20of%20mature%20aged%20workers.pdf>

Senge, P. (2008). Senge and Sensibility, Interviewed by Stuart Crainer. *Business Strategy Review*, 19(4), 71-75

Senge, P. (2006). *The Fifth Discipline: the art and practice of the learning organization*. New York: Currency Doubleday. First published 1990

Shanahan, M.J., Johnson, M.K. and Mortimer, J.T. (eds). (2016). *Handbook of the Life Course Volume II*. New York: Springer Cham Heidelberg. ISBN 978-3-319-20880-0 (eBook)

Shanahan, M.J., Johnson, M.K. and Mortimer, J.T. (2016). Life course studies – trends, challenges and future directions. Shanahan, M.J., Johnson, M.K. and Mortimer, J.T. (eds). (2016). *Handbook of the Life Course Volume II*. (pp. 1-26). New York: Springer Cham Heidelberg

SHRM Foundation. (2014). *The Ageing Workforce*. Executive Roundtable Report, 5 June. Retrieved 23 June 2017 from <https://www.shrm.org/ResourcesAndTools/hr-topics/behavioral-competencies/global-and-cultural-effectiveness/Documents/7-14%20Roundtable%20Summary.pdf>

Siccama, C.J. and Penna, S. (2008). Enhancing validity of a qualitative dissertation research study by using NVivo. *Qualitative Research Journal*, 8(2) pp.91-103 Retrieved 17 July 2017 from <https://doi.org/10.3316/QRJ0802091>

Siu, H. and Jaimovich, N. (2012). Jobless recoveries and the disappearance of routine occupations. VOX. CEPR Policy Portal 6 November 2012. Retrieved 12 April, 2016 from <http://www.voxeu.org/article/jobless-recoveries-and-disappearance-routine-occupations>

Siivonen, P. (2016). Becoming and educable lifelong learning subject: adult graduates' transitions in education and working life. *International Journal of Lifelong Education*, 35(1) pp.36-50. Retrieved 6 February 2017 from <http://dx.doi.org/10.1080/02601370.2015.1129365>

Smeaton, D., Vegeris, S. and Sahin-Dikmen, M. (2009). *Older workers: employment preferences, barriers and solutions*. London: Equality and Human Rights Commission. Retrieved 12 May 2017 from https://www.equalityhumanrights.com/sites/default/files/research-report-43-older-workers-employment-preferences-barriers-and-solutions_0.pdf

Smith, C. (2017). Australian Association of Social Workers (AASW). *Issues in contemporary social work and the profession's perspective*. Interviewed by Lyndell Fraser 16 June 2017

Smith, G. (2011). Realising your potential: Supporting older workers through learning. Ennals, R. and Salomon, R.H. (eds.) (2011). *Older Workers in a Sustainable Society*.

Labour, Education and Society. Vol 21. Frankfurt am Main, DEU: Peter Lang AG.

Retrieved 9 April 2016 from

<http://site.ebrary.com/lib/liverpool/detail.action?docID=10620410>

Smith, M. K. (2001, 2011). 'Donald Schön: learning, reflection and change', *the encyclopedia of informal education*. [online] Retrieved 18 July 2015 from

[\[www.infed.org/thinkers/et-schon.htm\]](http://www.infed.org/thinkers/et-schon.htm)

Smith, R., Dymock, D. and Billett, S. (2013). Learning and training for sustained employability across working lives. *International Journal of Continuing Education & Lifelong Learning*, 5(2), 85-102. Retrieved 20 March 2016 from

<http://web.a.ebscohost.com.liverpool.idm.oclc.org/ehost/detail/detail?sid=888ecece-875d-46fd-b880-0ac009ac86d7%40sessionmgr4004&vid=0&hid=4206&bdata=JnNpdGU9ZWZhvc3QtbGl2ZSZzY29wZT1zaXRl&preview=false#AN=88839189&db=ehh>

Sonnet, A., Olsen, H. and Manfredi, T. (2014). Towards more inclusive ageing and employment policies: The lessons from France, The Netherlands, Norway and Sweden. *De Economist* 162, 315-339. Retrieved 22 May 2017 from

<http://www.oecd.org/els/emp/Towards-More-Inclusive-Ageing-and-Employment-Policies.pdf>

Sorbring, E., Bolin, A. and Ryding, J. (2015). Game-based intervention – A technical tool for social workers to combat adolescent dating violence. *Advances in Social Work* 16 (1) 125-139. Retrieved 8 June 2017 from

<https://advancesinsocialwork.iupui.edu/index.php/advancesinsocialwork/article/view/18260/19926>

Sørensen, M.P. and Christiansen, A. (2013). *Ulrich Beck: An introduction to the theory of second modernity and the risk society*. Oxford: Routledge. Retrieved 30 April, 2016 from

<http://www.tandfebooks.com.liverpool.idm.oclc.org/doi/view/10.4324/9780203107928>

Stake, R.E. (2000). Case studies. In Denzin, N.K. and Lincoln, Y.S. (eds.) *Handbook of qualitative research* 435-453 Thousand Oaks: Sage.

Stake, R.E. (2011). Standards-Based and Responsive Evaluation. Data Gathering 1081158. SAGE Publications. Retrieved 3 July 2017 from

<http://methods.sagepub.com.liverpool.idm.oclc.org/base/download/BookChapter/standards-based-responsive-evaluation/n5.xml>

Stake, R.E. (2011) *Qualitative Research: Studying How Things Work*. New York: Guilford Publications. Retrieved 4 July 2017 from

<http://ebookcentral.proquest.com/lib/liverpool/detail.action?docID=479606>

Stevenson, J., & Clegg, S. (2013). 'My past is a double edge sword': temporality and reflexivity in mature learners. *Studies In Continuing Education*, 35(1), 17-29 Retrieved 28 June 2017 from

<http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=8&sid=67e12027-ee09-41da-a7f9-c7a4f6e53f2b%40sessionmgr4007&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#db=edswss&AN=000315190500002>

Stone, C, and O'Shea, S. (2013). Time, money, leisure and guilt – the gendered challenges of higher education for mature – age students. *Australian Journal of Adult Learning* 53(1), 95-116. Retrieved 1 July 2018 from <https://eds-a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=6&sid=1626c6b3-64a7-4410-a325-f416d342ca00%40sessionmgr4008>

Sultana, R.G. (2004). *Guidance policies in the knowledge society*. Luxembourg: European Centre for the Development of Vocational Training. Retrieved 20 March 2016 from http://www.cedefop.europa.eu/files/5152_en.pdf

Sultana, R. G. (2011). Lifelong guidance, citizen rights and the state: reclaiming the social contract. *British Journal of Guidance & Counselling*, 39(2), 179-186. Retrieved 20 March 2016

<http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=00a9ba38-f859-4e2a-9f37-0fdd1d01f0e1%40sessionmgr110&vid=8&hid=108>

Sultana, R. G. (2013). Flexibility and security? 'Flexicurity' and its implications for lifelong guidance. *British Journal of Guidance & Counselling*, 41(2), 145-163. Retrieved 20 March 2016

<http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?sid=00a9ba38-f859-4e2a-9f37-0fdd1d01f0e1%40sessionmgr110&vid=10&hid=108>

Sultana, R. G. (2012). Learning career management skills in Europe: A critical review. *Journal of Education and Work*, 25(2), 225-248. Retrieved 19 June 2018 from <https://eds-b.ebscohost-com.liverpool.idm.oclc.org/eds/detail/detail?vid=4&sid=12ea1af7-1d41-4196-8a94-31ea39cd1706%40sessionmgr103&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=EJ959146&db=eric>

Sundararajan, A. (2014). What Airbnb gets about culture that Uber doesn't. *Harvard Business Review*. [Online] 27 November. Retrieved 22 November 2017 from <https://hbr.org/2014/11/what-airbnb-gets-about-culture-that-uber-doesnt>

Sundararajan, A. (2017). The Future of Work. *Finance and Development*, 54, International Monetary Fund. Retrieved 19 September 2018 from <https://www.imf.org/external/pubs/ft/fandd/2017/06/sundararajan.htm>

Szakos, E.F. (2014). Learning as renewal: contribution to the present theoretical background of the lifelong learning policy of the European Union. *International Journal of Lifelong Education*, 33(4), 504-522. Retrieved 8 January 2015 from <http://dx.doi.org/10.1080/02601370.2013.876559>

Taylor, J. and House, B. (2010). An exploration of identity, motivations and concerns of non-traditional students at different stages of higher education. *Psychology Teaching Review*, 16(1) 46-58. Retrieved 30 June 2018 from <https://files.eric.ed.gov/fulltext/EJ891116.pdf>

Taylor, K., Ronte, H. and Hammett, S. (2014) *Healthcare and Life Sciences Predictions 2020. A bold future?* London: Deloitte UK Centre for Health Solutions

Tedder, M. and Biesta, G. (2007). *What does it take to learn from one's life? Exploring opportunities for biographical learning in the lifecourse*. British Educational Research Association Annual Conference, Institute of Education, University of London, 5-8 September. Retrieved 3 June 2016 from <http://www.leeds.ac.uk/educol/documents/176137.doc>

Taylor, G.H., Bount, Y. and Gloet, M. (2017). Aged care, ICT and Working Anywhere: An Australian case study. *Remote Work and Collaboration: Breakthroughs in Research and Practice*. Information Resources Management Association (ed.) (2017) Hershey, P.A.: IGI Global, Chapt.30 p.585. Retrieved 19 May 2017 from <http://bit.ly/2rxkLFk>

Teichler, U. (2015) Changing perspectives: the professional relevance of higher education on ways towards to highly educated society. *European Journal of Education*, 50(4) 461-477. Retrieved 12 June 2018 from <https://eds-a-ebsohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=5&sid=c576c349-6f23-4446-8f72-aed68fc2a55f%40sessionmgr4010>

The Economist. (2010). The net generation, unplugged. *Technology Quarterly*: Q1, 2010. Retrieved 22 May 2017 from <http://www.economist.com/node/15582279>

The Economist. (2017). *Lifelong Education*, 14 January, p. 3-14

The Economist (2017). *The data economy: Fuel of the future*. 6 May, p. 14-17

Thieme, P., Brusch, M. and Büsch, V. (2013). *The role of intrinsic training motivation for self-perceived work ability and working past retirement age*. Changing Configurations of Adult Education in Transitional Times. Conference Proceedings European Society for Research on Education of Adults (ESREA). 4-7 September, pp. 229-243. Berlin: Humboldt-Universität zu Berlin Retrieved 13 February 2016 from <http://edoc.hu-berlin.de/oa/books/rejEAjEFWlyvs/PDF/21IT0JmgrcsMM.pdf#page=63>

Thieme, P., Brusch, M. and Brusch, V. (2015) The role of continuing training motivation for work ability and the desire to work past retirement age *European Journal for Research on the Education and Learning of Adults*, 6(1), 25-38. Retrieved 1 March 2016 from http://www.rela.ep.liu.se/issues/10.3384_rela.2000-7426.201561/rela_0150/rela_0150.pdf

Thompson, S., Griffin, J. and Bowman, K. (2013). *The Ageing Population: new opportunities for adult and community education*. Footscray, Victoria: Adult Learning Australia. Retrieved 3 September 2018 from <https://ala.asn.au/wp-content/uploads/2011/02/The-ageing-population-report-FINAL-WEB.pdf>

Tight, M. (2012). *Researching Higher Education*. Maidenhead, UK: Open University Press

Timmons, J., Hall, A., Fesko, S. and Migliore, A. (2011). 'Retaining the older workforce: social policy considerations for the universally designed workplace.' *Journal of Aging & Social Policy* 23(2), 119–140. Retrieved 3 July 2018 from

Toivianen, H. (2015). Configurations of Learning in Global Work. 18-28 Bohlinger, S., Haake, U., Jørgensen, C.H., Toivianen, H. and Wallo, A. (eds). (2015). *Working and Learning in Times of Uncertainty*. Rotterdam: Sense Publishers Retrieved 18 November 2016 from <http://bit.ly/1Inc914>

Topol, E. J. (2010). Transforming medicine via digital innovation. *Science Translational Medicine* 2(16) 27 Jan pp16cm4 Retrieved 19 May 2017 from <http://stm.sciencemag.org/content/2/16/16cm4.full>

Toscano, N. (2015). Trade union membership hits record low. 27 October. *Sydney Morning Herald* [Online]. Retrieved 16 July 2017 from <http://www.smh.com.au/national/trade-union-membership-hits-record-low-20151027-gkjlpu.html>

Tuijnman, A. and Boström, A-K. (2002). Changing notions of lifelong education and lifelong learning. *International Review of Education* 48(1/2), 93-110. Retrieved 9 March 2017 from <http://web.a.ebscohost.com.liverpool.idm.oclc.org/ehost/pdfviewer/pdfviewer?sid=198aeb89-629d-4438-8ca3-2bb9ab00aa9c%40sessionmgr4010&vid=1&hid=4207>

UNESCO. (1996). *The treasure within*. (The Delors Report). Paris: UNESCO Publishing. Retrieved 7 March 2017 from <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/rethinking-education/resources/>

van der Heijden, B.I.J.M. and de Lange, A.H. (2011). Employability across the life-span: Towards new pathways for age research. In Ennals, R. and Salomon, R.H. (eds.) (2011). *Older Workers in a Sustainable Society. Labour, Education and Society*. Vol 21 (pp.19-31) Frankfurt am Main, DEU: Peter Lang AG. Retrieved 10 April 2016 from <http://site.ebrary.com/lib/liverpool/reader.action?docID=10620410&p00=realising+potential%3A+supporting+older+workers+through+learning&ppg=95>

Veloso, E. and Guimarães, P. (2014). Education and empowerment in later life. Schmidt-Hertha, B. Krašovec, S.J., and Formosa, M. (eds). (2014). *Learning across Generations in Europe*. (pp. 35-45). Rotterdam: Sense Publishers Retrieved 3 April 2016 from <http://link.springer.com.liverpool.idm.oclc.org/book/10.1007%2F978-94-6209-902-9>

Vickberg, S.M. Johnson and Christfort, K. (2017). Pioneers, drivers, integrators, guardians. *Harvard Business Review* March-April, 50-57. Retrieved 27 June 2016 from <http://eds.a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=7&sid=9a60d70f-cf8c-462e-aa8e-d3f4843eee26%40sessionmgr4009>

Vuori, J., Blonk, R. and Price, R. H. (2015). Conclusions for Policy, Practice and Research in Vuori, J., Blonk, R. and Price, R. H. (eds,) *Sustainable Working Lives: Managing Work Transitions and Health throughout the Life Course*. [e-book] (pp. 291-301). Dordrecht: Springer Netherlands. Retrieved 25 July 2018 from <https://eds-b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=1&sid=b74847c7-b2dc-4079-b8f2-288fd7fc4e66%40sessionmgr102&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=lvb3858899&db=cat00003a>

Walker, A. and Maltby, T. (2012). Active ageing: A strategic policy solution to demographic ageing in the European Union. *International Journal of Social Welfare*, 21, S117-S130 Retrieved 7 May 2016 from <http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=79611060&S=R&D=a9h&EbscoContent=dGJyMMTo50SeprQ4y9f3OLCmr06eqK9Ss664S7eWxWXS&ContentCusomer=dGJyMOzprkmvqLJPuePfgeyx43zx>

Walters, M. (2000). The mature students' three R's. *British Journal of Guidance & Counselling*, 28(2), 267–278. Retrieved 7 July 2018 from <https://eds-a.ebscohost.com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=2&sid=08d984f7-4ea1-46a3-a359-6128b63c2868%40sessionmgr4007>

Wenger, E. (2000). *Communities of Practice and Social Learning Systems*. Organization, 7(2) 225-246. Retrieved 29 April 2016 from <http://org.sagepub.com.liverpool.idm.oclc.org/content/7/2/225.full.pdf+html>

Wenger, E. (2010). Communities of practice and social learning systems: The career of concept. Blackmore, Chris (ed). (2010). *Social Learning Systems and Communities of Practice*. London: Springer Retrieved 29 April 2016 from <http://linksource.ebsco.com.liverpool.idm.oclc.org/linking.aspx?genre=bookitem&isbn=9781849961325&issn=&title=Social%20Learning%20Systems%20and%20Communities%20of%20Practice&volume=&issue=&date=20100101&year=2010&atitle=Communities%20of%20practice%20and%20social%20learning%20systems:%20The%20career%20of%20a%20concept&aurlast=Wenger,%20E.&spage=179&sid=EBSCO:Scopus%C2%AE&pid=>

West, L., Alheit, P., Andersen, A. S. and Merrill, B. (2013). Introduction: Why this book, and why now? *Using Biographical and Life History Approaches in the Study of Adult and Lifelong Learning*. [electronic book]: European Perspectives. Frankfurt am Main: Peter Lang GmbH, Internationaler Verlag der Wissenschaften. Retrieved 16 April, 2016 from <http://eds.b.ebscohost.com.liverpool.idm.oclc.org/eds/detail/detail?vid=10&sid=6a945bea-c674-46d6-acd3-1ed3583e0065%40sessionmgr104&hid=103&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=lvp.b3826516&db=cat00003a>

West, L., Alheit, P., Andersen, A.S. and Merrill, B. (2007). *Using Biographical and Life History Approaches in the Study of Adult and Lifelong Learning: European Perspectives*. Frankfurt am Main: Peter Lang. (European Studies in Lifelong Learning and Adult Learning Research; No. 2).

Weymann, A. (2002). Future of the life course. In Mortimer, J.T. and Shanahan, M.J. (eds.) *Handbook of the Life Course* [electronic book].(2002) (pp. 703:714). New York: Kluwer Academic Publishers. Retrieved 28 February 2016 from University of Liverpool

Withnall, A. (2012). Lifelong or longlife? Learning in the later years. *Second International Handbook of Lifelong Learning* Part 1 Aspin, D.N., Chapman, J., Evans, K. and Bagnall, R. (eds) (2012) London: Springer (pp. 649:664)

Wolever, R.Q., Moore, M.A. and Jordan, M. (2016). Coaching in Healthcare. *The SAGE Handbook of Coaching* (2016) Bachhkirova, T., Spence, G. and Drake, D. (eds.) (Chapt 29. Retrieved 19 May 2017 from <http://bit.ly/2rx6E30>

Woodman, D., Threadgold, S. and Possami-Inesedy, A. (2015). Prophet of a new modernity: Ulrich Beck's legacy for sociology. *Journal of Sociology*, 51(14) 1117-1131 Retrieved 30 April 2016 from <http://jos.sagepub.com.liverpool.idm.oclc.org/content/51/4/1117.full.pdf+html>

World Bank. (2000). *Beyond Economic Growth: Meeting the Challenges of Global Development*. Retrieved 1 May 2016 from <http://www.worldbank.org/depweb/beyond/global/chapter9.html>

World Bank. (2002). *Globalisation, Growth, and Poverty: Building an inclusive world economy*. New York: Oxford University Press. Retrieved 10 April. 2016 from http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2002/02/16/000094946_0202020411335/Rendered/PDF/multi0page.pdf

World Bank. (2018). Global themes. Retrieved 18 June 2018 from <http://www.worldbank.org/en/about/unit/global-themes>

World Economic Forum. (2016). The future of jobs. Retrieved 23 January 2016 from http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf

World Economic Forum. (2016). What are the 10 biggest global challenges? 21 January Retrieved from <https://www.weforum.org/agenda/2016/01/what-are-the-10-biggest-global-challenges/>

Yin, R.K. (2014). *Case Study Research: Design and Methods*. Fifth Edition. Sage Publications, Inc.: Thousand Oaks, N.Y.

Yliruka, L. and Karvinen-Niinikoski, S. (2013). How can we enhance productivity in social work? Dynamically reflective structures, dialogic leadership and the development of transformative expertise. *Journal of Social Work Practice* 27(2), 191-206. Retrieved 4 July 2018 from <https://eds-b-ebshost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=2&sid=5915eeb7-326a-44ea-bc42-a71f457d050a%40sessionmgr104>

APPENDIX A

Questions for Interviews

- *What are the key reasons or motivations that lead you to undertake further education as a mature student - how would you contrast that with when you were post-school to say your mid-twenties?*
- *Did any of the following factors influence your decision: globalisation, loss of job, a work situation that was changing so your skills might no longer be relevant, an uncertain future outlook for current employment, maybe even computerisation or jobs being changed through globalisation?*
- *Were there any issues that stood out in terms of your current skill set or education which may have prompted your decision to study? Or maybe they were not relevant?*
- *Is your study designed more to assist you change career or deepen expertise? Or for some other reason?*
- *Now I'd like you to think about the education pathway as it applies to you. There is a view that education is linear – i.e. it is a quite stepped out – you finish school, undertake study, go to work and then perhaps repeat some parts and that is what underpins a career and success (however one chooses to define success). Another view is that education is quite transitory – it doesn't follow a set path and can be very changeable in what might be needed to have a career. How do you view the education pathway?*
- *Thinking about what we have been discussing, do you see the learning or education you are taking on now as giving you a sense of security for the future? Why or why not?*
- *Has your immersion or involvement in the learning experience changed (if at all) your view on career and your ability to navigate an uncertain employment environment?*
- *Many of the well regarded professions are seeing jobs disappear under the impact of computerisation, machine to machine learning, new applications etc. Some examples include accountancy, pharmacy (explain how). Do you see this happening in the helping profession you have chosen?*
- *Has the Professional Association (name if needed e.g., PACFA) played any role in assisting you understand your options? Future career?*

- *Has the Professional Association (name if needed e.g., PACFA) played any role in assisting you understand your options? Future career?*
- *What factors in the learning environment do you see as best equipping you for a positive employment experience for themselves? What factors detract – If any?*
- *How do you view your own capacity to be able to successfully navigate the world of work? (Agency)*
- *Does identity (Sense of Self) impact significantly in the way they address the management of change?*
- *What strategies or services have proved of most help to support your learning and career objectives as a mature-age students? Any that you'd add?*

APPENDIX B

Interview Demographic Information

| Name | Age band | Gen -der | Degree | Education | Work History | Other |
|------|----------|----------|-----------------------------------|---|--|--------------------------------------|
| N1L | 35-39 | M | Psych (Hons) | Part computer science | Corporate work & volunteering | Partner. Migrant |
| C2N | 45-50 | M | Psych - u/g | Economics | Business Marketing | |
| B3D | 50-55 | M | Psych – u/g | Graphic Design; U/g Marketing | Graphic design and advertising Multiple businesses. | Sold business – changed focus |
| A4W | 40-45 | M | Psych - u/g | Social Work Dip; U/g Computer Science; Bus Cert. | Administration & business analysis | Migrant |
| J5H | 51-55 | M | Psych Grad Dip | Business | Sales and Management, Education and Training | Single. Migrant |
| C6E | 40-45 | F | Psych – p/g | U/g Human Biology. Masters Psych (o/s) | Private practice. | Married with children |
| M7E | 40-45 | F | Psych (Hons) | U/g Psych; Counselling | Publishing. Counselling & NFP foundation. HR placement | |
| J8I | 35-40 | F | Psych - u/g | Trades apprentice; Dip bus; P/G Dip Bus Admin. Dip Hypnotherapy | Trades & sales, Counselling. | Potential future regulation. Migrant |
| C9N | 35-39 | F | Psych - u/g | Hospitality. | Hospitality. 15 years in sector | Children. Migrant |
| S0Y | 35-39 | F | Psych - p/g | B. Technology. Proj Mgt Dip & TAE | Project Mgt. Training. | Single. Migrant |
| H1I | 39-45 | F | Psych - u/g | – | Family caring | Married with children |
| T2H | 56-60 | F | Counselling & Psychotherapy - u/g | Sch Cert. | PR. Franchising. Import. Interior design | Married with adult children |
| L3E | 35-40 | F | B Applied Soc Science | U/g IT B Counselling/Coaching | IT Financial Services | |
| T4E | 51-55 | F | Psych u/g – B Applied Soc Sc. | Architecture (incomplete) | Design & building. Various E-Commerce. | Married with adult children. |
| D5H | 35-40 | F | Psych – u/g. | B Arts (incomplete) | Advertising. Furniture. Family business | Married with children |
| D6T | 61-65 | M | Applied Soc Sc u/g | Grad Dip. IT | Family bus. IT- Project Mgt. | Married |

| | | | | | | |
|------|-------|---|-----------------------------------|---|---|--|
| W7Y | 41-45 | F | Applied with Counselling - u/g | School Cert. | Call Centres – management. | Married with children |
| S8E | 46-50 | F | Counselling – p/g | Social Work | Child care and disability sector. | |
| G9E | 56-60 | F | Counselling & Psychotherapy - u/g | Nursing & Health Sciences & p/g Management, | Health services | Married with adult children |
| D0D | 41-45 | M | Counselling - u/g | Dip. Counselling | All sectors – blue & white collar & services. | |
| S1E | 41-45 | F | Counselling - u/g | Dip Bus Admin | Secretarial & Publishing; Music & Volunteer | Divorced with children |
| R2A | 46-50 | F | Counselling - u/g | Dip Fashion. Dip of Counselling | Administration & volunteer | Married with children. Migrant |
| H3A | 41-45 | F | Counselling - u/g | Bus and Accounting. Master of Accounting incomplete. | Accounting and HR | Married with children. Migrant. |
| A4A | 55-60 | F | Applied Soc Science - u/g | Nursing; u/g | Nursing | Divorced with adult children. |
| A5A | 61-65 | F | Counselling - u/g | Voc Ed Aged Care, Art Therapy, Counselling | Banking. Aged Care/Community Care. Volunteer | Divorced with adult children. Migrant sons |
| G6P | 55-60 | M | Counselling - u/g | Cert Commerce. Theology | Variety of government, business and welfare activities. | Divorced with adult children |
| J7O | 61-65 | F | Counselling - p/g | B Sc (Psych) | Family bus. Volunteer | Married with children |
| M8A | 51-55 | F | Counselling - u/g | Voc Ed. Counselling. | Welfare sector. | Married with adult children |
| S9A | 56-60 | F | Counselling - u/g. | Applied Sc – u/g (incomplete). Work related Voc Ed. Dip Case Mgt. | Travel & retail sectors | Married with adult children. |
| C0N | 56-60 | F | Counselling - u/g | Secretarial; Dip Counselling | Office and administration. Small business. Volunteer | Married with children. |
| W1B | 56-60 | M | Dip Counselling – p/g | B. Engineering. P/G Dip Counselling & Film | Resources. | Divorced with children. |
| J2W. | 45-50 | F | Soc Sc Counselling | Voc Ed Financial services & Childcare | Admin. Childcare. Volunteer. | Divorced with adult Children |

| | | | | | | |
|------------|-------|---|-----------------------------------|--|---|---------------------------------------|
| M3T | 39-44 | M | Psychology – p/g | Psychology u/g | Transport & Logistics | |
| P4L | 51-55 | M | Counselling & Psychotherapy - p/g | Sociology p/g | Many blue collar jobs. Small business. Academic & Volunteer | Partner. Migrant |
| M5N | 56-60 | F | Counselling - u/g | Dip Counselling | Music. Pharmacy. Volunteer. | Married with children |
| K6E | 51-55 | F | Counselling- u/g | Dip Soc Welfare | Admin Work. Rural. Corrections Aged Care & Disabled. | Divorced with adult children. |
| M7E | 56-60 | M | Psychotherapy – p/g | Literature u/g | Advertising. Coaching. Volunteer | Married with adult children. Migrant. |
| M8G | 61-65 | F | Counselling & Psychotherapy | Liberal Arts – u/g. P/g Dip Mktg & Translation. | Teaching. Skills auditing. Local Govt. | Married with adult children. Migrant. |
| C9A | 39-44 | F | Applied Soc Science - u/g | HSC | Administration & retailing. Volunteer | Married with children. Migrant. |
| A0W | 36-40 | M | Psychology – p/g | Liberal Arts u/g. Languages; Intl Studies/Ed. p/g Counselling & Behav Sc. Masters. | Counselling; Teaching. | Married with children. Migrant. |
| D1B | 50-54 | F | Psychology - u/g completed | Appl. Social Sc | Sales. Family bus. Automotive | Married with adult children. |

APPENDIX C

Sample Questions for Interviews with Professional Bodies

- What does (body) see as its major priorities and why?
- What in broad terms is the composition of the (name) profession in terms of age, gender, areas of work
- How does the (body) see the potential impact of technology? Of displacement of some services or modes of interaction for instance could Apps and algorithms potentially displace - in part or whole - roles filled today?
- How would the profession see its role in guiding members through change – are there impacts or insights being seen from on-line applications, wearable devices, machine to machine learning, communications as well as globalisation that the Profession is exploring or would like to do more in? This is bearing in mind what is occurring in a number of other professions e.g. law, accountancy.
- Will clients themselves demand a different way of interacting?
- One issue I discerned is the tension between a view that there will be massive increases in demand for services as against decreasing public budgets or constrained individual ability to fund, which might accelerate a push for lower cost forms of delivery and associated take-up. Does (body) see this as an issue
- Are there different areas of employment for skills nurtured in (discipline) that it might be valuable to expose students to as they undertake their learning to expand their potential roles?

APPENDIX D

Consent Forms

1. Participant Consent Forms



Committee on Research Ethics

PARTICIPANT CONSENT FORM

Title of Research Project: **CHANGING CAREER S/ STAYING RELEVANT: FACILITATING THE PATH OF MATURE STUDENT S IN HIGHER EDUCATION**

Researcher: Lyndell Fraser

| | | PLEASE INITIAL BOX |
|---|--|--------------------|
| 1 | I confirm that I have read and have understood the information sheet dated [DATE] for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. | |
| 2 | I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected. In addition, should I not wish to answer any particular question or questions, I am free to decline. | |
| 3 | I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish. | |
| 4 | I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications. | |
| | I understand and agree that once I submit my data it will become anonymised and I will therefore no longer be able to withdraw my data | |
| 5 | I agree to take part in the above study. | |

| | | |
|-------------------------------|-------------|-----------|
| Participant Name | Date | Signature |
| Name of Person taking consent | Date | Signature |
| Lyndell Fraser | 1 Sept 2016 | |
| Researcher | Date | Signature |

2. Participant Information Sheet

Participant Information Sheet and Consent



Research Project Title:
Mature Learners – Understanding the learning decision and challenges faced

Invitation

You are being invited to participate in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve.

It would be appreciated if you would take time to read the following information carefully and feel free to ask if you would like more information or if there is anything that you do not understand.

Please also feel free to discuss this with your colleagues within and outside the College. You do not have to accept this invitation and should only agree to take part if you want to.

Thank you for reading this.

Purpose

This purpose of this project is to provide an understanding of the decision process that mature learners make in taking on a period of formal study. This includes the reasons for making this decision, the challenges faced and the objectives or goals that are behind the decision.

The research activities are intended to help the researcher build a picture of what mature learners face and from this to suggest practices and/or policies that may help education institutions, employers and policy makers enact positive change e.g. through better support mechanisms, more relevant interventions or provision of information, as well as improve staff development practices.

Rationale for Your Participation

You are being requested to take part in some aspect of the study because you are undertaking a period of formal study and aspects of your involvement may shed light on the issues facing mature students. The project is based on one higher education provider in Australia and the total number of participants is approximately thirty via a number of focus groups.

The College has agreed to make the research known to students, from which you may then choose to participate.

1 | Page

Do I have to take part?

NO. Your participation is totally voluntary and even if you begin participation, you are free to withdraw anytime without explanation or consequences. If you choose not to participate, no data related to you or your course of learning will be used or reported in the research study.

What will happen if I take part?

If you choose to take part, some of the data you generate through participation in a focus group will be used to compile an anonymous report/analysis and shared with faculty at the University of Liverpool, United Kingdom. Specifically, the data being collected for this analysis includes:

- The results of data on a participation registration sheet provided but these will be anonymous
- Comments and feedback generated by the participants in the focus group (any comments will be attributed anonymously)
- My own notes and observations on comments and feedback from participants (any comments will be attributed anonymously)
- Meeting notes, policy and process documents

The interviews will be held via Skype or by phone depending on the participants preference and will run for an estimated time of 30-45 minutes. All data will be gathered prior to March, 2017, after which time participation in the study will end and no further data will be gathered.

Risks

It is not anticipated that you will experience any risk, harm or expenses from participation in this study. Should you experience any discomfort as a result of your participation, please inform the primary researcher immediately (contact information below).

Benefits

The main benefits of participation in this study will be an improved service design process for students such as yourself, through highlighting issues faced and so facilitating a better understanding and the adapting of policy and education practices to be more effective.

What if I have a problem/complaint?

If you are unhappy, or if there is a problem, please feel free to let me know by contacting Lyndell Fraser (0414780640) and I will try to help.

If you remain unhappy or have a complaint which you feel you cannot bring to me, then you should contact:

- Dr Martin Gough, my supervisor martin.gough@online.liverpool.ac.uk or
- the Chair of the Research Ethics Committee via 001-812-312-1210 or liverpoolethics@ohcampus.com. When contacting the chair, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

Will my participation be kept confidential?

The research team will not disclose to any third party that you participated in this study. Any data you generate will be kept anonymously. Anonymous data generated from participants in this study will be stored for five years in the researcher's secured personal Google web storage.

2 | Page

What will happen to the results of the study?

Anonymous results will be compiled and reported within the University of Liverpool to fulfil course requirements. Participant data will be made unidentifiable, which means that not only are names removed, but potentially identifying characteristics and demographic information will also be stripped from any shared data.

What if I stop taking part?

You may withdraw anytime without explanation. Results up to the period of withdrawal may be used, if you are happy for this to be done. Otherwise you may request that they are destroyed and no further use is made of them.

Researcher

The researcher is a mature age student undertaking the Doctor of Higher Education degree at the University of Liverpool, U.K. The researcher has no employment arrangement with the College and no financial interest. The research is separate from the researcher's professional life.

Who can I contact if I have further questions?

- **My contact details are:**
Lyndell Fraser, EdD Candidate & Principal Investigator |
lyndell.fraser@online.liverpool.ac.uk
Local address: lyndell.fraser@bigpond.com
Mobile number: +61 414780640
- **The contact details of the Research Participant Advocate at the University of Liverpool are:**
001-812-312-1210 (USA number)
Email address liverpoolethics@ohcampus.com

Please keep/print a copy of the Participant Information Sheet for your reference. Please contact me and/or the Research Participant Advocate at the University of Liverpool with any question or concerns you may have.

With many thanks

Lyndell Fraser

26 Oct 2016

LFraser


Researcher

Date

Signature

APPENDIX E


University Of Liverpool Ethics Approval



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| | |
|---|--|
| <p>This approval applies for the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, the Sub-Committee should be notified. If it is proposed to make an amendment to the research, you should notify the Sub-Committee by following the Notice of Amendment procedure outlined at http://www.liv.ac.uk/medialiv.ac.uk/researchethics/notice%20of%20amendment.doc.</p> <p>Where your research includes elements that are not conducted in the UK, approval to proceed is further conditional upon a thorough risk assessment of the site and local permission to carry out the research, including, where such a body exists, local research ethics committee approval. No documentation of local permission is required (a) if the researcher will simply be asking organizations to distribute research invitations on the researcher's behalf, or (b) if the researcher is using only public means to identify/contact participants. When medical, educational, or business records are analysed or used to identify potential research participants, the site needs to explicitly approve access to data for research purposes (even if the researcher normally has access to that data to perform his or her job).</p> | <p>Please note that the approval to proceed depends also on research proposal approval.</p> <p>Kind regards,</p> <p>Marco Ferreira Co-Chair, EdD, VPREC</p> |
|---|--|



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| | |
|--|--|
| Dear Lyndell Fraser | |
| I am pleased to inform you that the EdD, Virtual Programme Research Ethics Committee (VPREC) has approved your application for ethical approval for your study. Details and conditions of the approval can be found below. | |
| Sub-Committee: | EdD, Virtual Programme Research Ethics Committee (VPREC) |
| Review type: | Expedited |
| PI: | |
| School: | Lifelong Learning |
| Title: | Changing careers - Staying relevant: Facilitating the path of mature students in higher education |
| First Reviewer: | Dr. Marco Ferreira |
| Second Reviewer: | Dr. Michael Waits |
| Other members of the Committee | Lucilla Crosta (Co-chair), Julie-Anne Regan, Janet Hanson, Kallman Winston, Christos Petchakis. |
| Date of Approval: | 4 th August 2016 |
| The application was APPROVED subject to the following conditions: | |
| Conditions | |
| 1 | Mandatory M: All serious adverse events must be reported to the VPREC within 24 hours of their occurrence, via the EdD Thesis Primary Supervisor. |

